Lectures ON INJURIES OF NERVES.

Delivered at the Royal College of Surgeons,

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LECTURE III.—*(Concluded.)*

TREATMENT OF NERVE INJURIES.

Causes of failure of primary suture of nerve.—I have already expressed my opinion that "if the nerve ends have been carefully coapted and kept in position, restoration of function will ensue in the great majority of cases," but I have no doubt that in some instances no such restoration occurs. The causes of failure are more than one, but those on which I would lay most stress are "sloughing of the nerve ends" and profuse suppuration in the wound. The deleterious effects of sloughing are so obvious that I need not enlarge upon them. It is evident that if portions of the nerves are destroyed union is not to be expected. This sloughing was the probable cause of failure in a case of ulnar suture at St. Bartholomew's Hospital, and also in the case of suture of the peritoneal nerve recorded by Iefremowsky. In cases where suppuration is profuse, portions of nerve may be destroyed by ulceration, and even if they escape this fate they are liable to be strangled and compressed by dense scar tissue, as in a case recorded by Busch-Madelung. But not only may the nerve ends be destroyed by the suppuration, the sutures which hold them in apposition may likewise be liquefied, and thus the ends may become separated. I am inclined to think that this accident most probably occurred in the two cases of failure of suture of the ulnar observed by myself, but it is quite possible that pressure by scar tissue may have caused the continuance of the paralysis. The treatment of cases of failure of primary suture is sufficiently clear. In any case where sufficient length of time has been allowed to elapse without restoration of function, the nerve should be exposed at the seat of injury. If its continuity is not interrupted, it should be freed from scar tissue, then thoroughly stretched to free the individual fibrils yet more. If the ends have become separated from any cause, the operation of "secondary suture" should be performed as described in the following pages.

Treatment of complicated wounds of nerves.—In connexion with this subject I shall allude but briefly to two complications: 1st, cases in which the nerve ends are much lacerated and contused; 2nd, cases in which the ends cannot be brought into contact. With regard to the first, the proper treatment, in my opinion, would be the resection of such an amount of nerve as seemed too much damaged to recover, followed by stretching of the proximal and peripheral ends and fixation by suture. That the most satisfactory results may follow such treatment, a case I have already mentioned of a wound of the median nerve supplies ample proof. Here there was a great deal of laceration of the soft parts, and I found it necessary to remove about one inch of nerve which had been almost completely separated from both the upper and lower ends. I did not meet with any material difficulty in bringing the cut surfaces into apposition, and, after fixing the hand in a flexed position on a splint, the case resulted in union by first intention. The second complication I have mentioned is much more serious, for where the ends of the divided nerve cannot be brought into apposition on account of too extensive loss of nerve substance, the prognosis cannot be very favourable. Létiévant has recommended that one of two operations should be performed. First, that the peripheral ends should be grafted on to a freshened surface of some neighbouring trunk; or, secondly, that the proximal end should be split longitudinally to a sufficient extent, a cross section be then made of one-half of the nerve at the highest point to which the splitting is carried, and then that the split portion should be turned down and placed as a sort of graft between the parted ends. I am not aware that either of these operations has ever been put into actual practice, but should view each with but little favour. The second suggestion especially seems to be of more than doubtful value, for the split portion would really be completely separated from each end, and in my opinion would probably slough. In a case where an inch or two of nerve had been destroyed and I was unable to bring the ends into apposition, I should pass sutures through them, and bring them as close as possible by the aid of stretching and of position. In this way further retraction would be prevented, and the two cut surfaces would, at any rate, be fixed in the same plane. I have already detailed cases where union has occurred after excision of several inches of nerve independently of suture, and although I should not give a favourable prognosis, I believe that such treatment would afford the best prospect of recovery. Some experiments by Vanlair[1] are of interest in connexion with this subject. This author details how he resected three centimetres of the sciatic nerve of a young dog, brought the ends as near to one another as possible with sutures, and enclosed them in one of Neuber's decalcified bone drainage tubes. The wound healed readily, and four months later an examination of the seat of injury showed a reunion of the divided nerve. It is evident that the only value this treatment possesses is derived from the fact that the cut ends of the nerve are prevented from becoming adherent to the surrounding tissues, or compressed by the cicatrix.

Secondary suture of nerves.—The operation of secondary suture is performed at some time after the infliction of the original injury, generally in cases in which no attempt has been made to secure primary union of the divided nerve. It may be performed either before the wound has healed, or else after it has cicatrised. The indications for such an operation are afforded by the presence of symptoms pointing to the conclusion that a nerve has been divided, and has not united. These symptoms I have already alluded to and described in detail, and will only point out that, as I have already insisted, it is not sufficient to examine the sensation alone of parts supplied by the nerve in question—the conditions and electrical reactions of the muscles are of as great if not of greater importance. With respect to the advisability of performing this operation, I would say in its favour all that I have already said in connexion with "primary suture." In all cases in which a surgeon believes that a divided nerve has not united it is his duty to attempt the suture of the separated ends. In performing the operation it is of prime importance that the parts should be as bloodless as possible, and to obtain this end the use of Esmarch's bandage is most advisable. The limb having been exsanguinated, an incision should be made through the scar in the line of the wounded nerve, the ends of which must be carefully sought. Very frequently these ends have become separated by a considerable interval, and it is frequently necessary to prolong the wound to a much greater extent than originally appears necessary. The upper end is usually the more easily found, for it is not atrophied, and its bulbous extremity is frequently very prominent. The latter is generally closely adherent to the surrounding scar tissue, and from this it should be carefully but completely separated. The search for the lower end is sometimes very tedious and difficult. It is often much atrophied, and is liable to be displaced from its normal situation by contraction of the neighbouring scar tissue. When any difficulty is experienced, it is best to search for the nerve below the seat of section, and having found it at a place where it is not hidden or dragged aside, to trace it thence to the scar. From the latter it must now be separated in a similar manner to the upper end. The extremities of the cut nerve having been thus exposed, the next question to arise is as to the amount which should be resected. On this point I am very clear. The section of the upper end should be carried through the uppermost part of the bulb, close to the normal trunk. At this point there are numerous young nerve fibres, and the tougher tissue of the bulb affords an excellent hold for the sutures. In dealing with the lower end it should be remembered that its whole length is in the same condition of degeneration or of regeneration throughout. Manifestly there can then be no good done by cutting off successive sections in the hope that the cut surface may look more healthy than that which is seen on the first resection. All that should be done is to cut away the extreme end, which, being matted

[1] Archiv. de Phys., 1882, vol. x. p. 595.

with fibrous tissue and compressed by the surrounding scar, is very likely to contain no nerve tubules or elements of any kind. It is seldom necessary to remove as much as a quarter of an inch, and, however unhealthy the section may look, no good is ever to be gained by a further sacrifice. The nerve ends should be as little pinched or bruised as possible, and after section should not be held by forceps. If it is necessary to use the latter, they should be fixed in the sheath. In cases in which there has been much separation of the cut ends an additional inch or more may be gained by a thorough stretching of each extremity. When this is done, it is often advisable to remove the Esmarch's bandage, for if this be applied immediately above the seat of operation, it will tend to greatly limit the amount of length to be gained by stretching. As to the material for suture and the best method of passing sutures, I have nothing to add to that which I have written in treating of the subject of primary suture.

Summary of cases of secondary nerve suture.—The value of the operation of secondary suture can only be judged by a clinical study of patients, and by reference to recorded instances. Time does not permit me to describe in detail the clinical features of the various cases I have watched, or to do more than tabulate the records of other surgeons. For the present, therefore, I must ask you to accept this summary.

The following cases of secondary suture were performed in St. Bartholomew's Hospital up to December, 1885:—

Median nerve: Successful, 1; partially successful, 4; failure, 1—total, 6. Ulnar nerve: Successful, 2; partially successful, 5; failure, 3—total, 10. Musculo-spiral nerve: Successful, 1. Median and ulnar nerves: Partially successful, 1. Grand total, 18—viz.: Successful, 4; partially successful, 10; failures, 4.

Cases of secondary nerve suture recorded in surgical literature up to December, 1885:—

Fifth cervical nerve: Successful, 1. Median nerve: Successful, 3; partially successful, 5; failure, 3—total 11. Ulnar nerve: Successful, 5; partially successful, 1; failure, 3—total, 9. Musculo-spiral nerve: Successful, 11; greatly improved, 3; failure, 2—total, 16. Radial nerve: Successful, 1. Median and ulnar simultaneously: Successful, 1; partially successful, 2; failure, 3—total, 6. Median and radial simultaneously: Partially successful, 1. Sciatic nerve: Successful, 1; improved, 1; failure, 1—total, 3. Popliteal nerve: Improved, 1. The above cases give a grand total of 49, of which 23 were successful, 14 partially successful, and 12 failures.

If the cases recorded by myself be added to those recorded by other authors, the totals will read thus: Successful, 27; partially successful, 24; failures, 16—total, 67.

In drawing up the above summary I have been very careful not to include amongst the "successful cases" any but those in which there appeared to be either a complete or almost complete restoration of function. Many of the St. Bartholomew's cases which I have placed under the head of "partially successful" might with almost equal fairness have been placed under the first heading, and I have no doubt that in time they will deserve such promotion. In the cases recorded by other authors I have often had much difficulty in deciding whether to place the case under the "successful" or "partially successful" class. I have in cases of doubt generally placed them under the latter; but where the details are few, and where, as is often the case, the return of sensation alone is noted, it is impossible to accurately estimate the value of the individual operation. But although I have taken all the care possible in this summary, as in that of cases of primary suture, the table, like the other, is misleading. The cause in each is the same. Perhaps one of the first things that strikes one on a consideration of the cases noticed by myself is the considerable length of time that frequently elapsed between operation and material improvement. More especially is this the case in connexion with the restoration of muscular power. This is a point of such importance that I shall venture to still further analyse the reported cases.

Of the cases of secondary suture of the median nerve at St. Bartholomew's, in the one recorded as a success the latter was not attained for more than four months and a half after the injury. In the two cases of successful suture of the ulnar nerve nearly two years elapsed in each before restoration of function was perfect. In the one case of suture of the musculo-spiral power did not commence to return for three months, and almost a whole year elapsed before motor power was perfected. In the cases of secondary sutures, in which successes have been recorded by other surgeons, the time that elapsed in several cases before complete restoration resulted was, respectively, one year, two years, a year and ten months, a year and a half, one year, two years, three years, one year and a half, &c. In many cases a much shorter time was requisite, but these instances are sufficient to show that because restoration of power is not complete after a few months this is no reason for considering the case a failure, or for supposing that further improvement will not take place. All that I have said on this subject, when writing of primary suture, applies here equally well, and I would now point out that, with these facts to work upon, a further investigation of the cases recorded by myself and others must result in the inevitable conclusion that in many of the cases which are included amongst those of "failure" or of "partial success," a further improvement was to be expected, and would probably ensue.

Thus, if we look at the cases I have placed under the heading of "partially successful," we shall find that of my own those of median suture were only under observation for nine months, eight months and a half, five weeks, and five months respectively. Those of ulnar division for four months, two years, one year, one year and a half, and six months. That of the median and ulnar simultaneously for a year and a half. All these patients are still under observation, and from the way in which they all have improved and continue improving I confidently anticipate a favourable termination. In the cases of suture of the ulnar nerve, in one there was no sign of improvement for a year and a half (after that it was rapid), in another none for a year, whilst in the case of "improved" in the suture of the median and ulnar nerves there was no change for a year and three months, and then rapid restoration of power. Seen in this light the cases in which only a partial success or else a failure is recorded by other surgeons assume a very different aspect.

Of the "partially successful" cases those of median suture were under observation for only twenty-six days, one year, several weeks, six weeks, and seven weeks respectively. That of ulnar suture for five weeks. Those of musculo-spiral suture for two and a half months, ten weeks, and two months. Those of suture of the median and ulnar for seven months and for five weeks. That of the sciatic for a doubtful time. That of the popliteal for three years. Of the cases of "failure" recorded by other authors, those of median suture were kept under notice for eight weeks, a few weeks, and in the third case for no special time mentioned. Those of suture of the ulnar for two months, a doubtful period, and for eight months respectively. Those of musculo-spiral suture for twenty-six days and for a short time. Those of suture of the median and ulnar simultaneously for six months, three months, and a few months. That of the sciatic nerve for one year. Thus of all these cases of recorded "partial success" or "failure," but one—and that a "partial success"—was observed for more than a year, whilst most of the others were not seen for more than a few weeks after suture. It is not possible to consider these results as final. I have shown that in cases kept under notice for a sufficient length of time recovery may ensue where failure has been expected. Of the cases that I record most were discharged from hospital but little better than on admission, yet in almost all—in all, in fact, but two—improvement ensued at a later date.

Most of what I have just written is, as I said at the commencement, in reference to the return of motor power, and if we consider that at the time of suture the muscles were in most of these cases in a state of advanced degeneration and atrophy, I think that the long time required for restoration is only what might be expected. The nerve has to be rejoined, and after that the muscle has to be remade. This restoration of muscle is, indeed, one of the most marvellous evidences of recuperative power ever met with in the human body. Muscles, of which there scarcely appears to be any remains, may be entirely restored in bulk and in power. It is wonderful that this occurs at all, and that it should occur rapidly is not to be supposed.

In the cases in which sensation returns, the most varying times are required for its restoration. In some cases there was restoration of sensation within twenty-four hours of operation, and in others within two or three days. In some again, sensation did not return for many months; in others it required a year or more for its further development. It is very noticeable that in some of the St. Bartholomew's

cases, as well as in a few of the others, a rapid return of sensation after operation was followed by an equally rapid loss after a few days of hope.

How is this rapid return to be accounted for? It has been noticed to occur at almost all times after section at intervals of a few weeks or of many months. For my own part, I do not doubt that it implies a restoration of continuity between the divided ends of injured axis cylinders. Either some of the latter have not entirely degenerated, or, as in the cases observed by myself, they have again regenerated. This is, in my opinion, the only rational explanation. French authors, on the other hand, believe that the return is due to some reflex changes which ensue in the other nerve trunks as the result of the section of the bulbous extremity of the proximal wounded end. What these changes are they do not suggest, much less prove, and, for the present at least, I shall continue to be sceptical as to their existence. It has been argued that it is not possible to explain restoration of sensation by a re-establishment of continuity of the divided axis cylinders if you do not find the said axis cylinders in the resected portion of the peripheral end. At first sight this appears plausible. It is nothing more, and I certainly would not be prepared to say that because I could find no axis cylinders in a tag-end about one-eighth of an inch in length therefore they did not exist. I can conceive nothing more difficult than to search for such remnants of nerve tissue in the end of a wasted nerve mingled with the products of inflammatory action. The only rational explanation of a return of function after secondary suture is that it is due to a reunion of the divided axis cylinders, difficult as this may be to explain, in view of the probable condition of degeneration of the peripheral end.

How then shall we explain the not infrequent disappearance of the recently restored sensation? My own experience is that this disappearance is usually coincident with the establishment of suppuration or of inflammatory swelling about the wound, and I consider that in such cases the recently united nerve ends become separated for the time by inflammatory exudations. This lost sensation may again return and in time become perfected.

There is, however, another point of considerable interest yet to be noticed—namely, the rapidity with which regeneration sets in after the ends have been reunited. Looking at what we know of the changes occurring in the periphery of a divided nerve, we might almost be led to expect that, in the most favourable cases, the nerve suture would but place the divided ends in a favourable position for union to occur after such a time as is required for the processes of degeneration and regeneration to be completed. But the cases before us show very clearly that the reunion of the proximal and peripheral ends hastens most materially the reparative changes in the latter, so that instead of a year or more being required for the restoration of the nervous function, this is often re-established within a few months of the operation, even when the latter has taken place long after the original accident, and, consequently, at a time when the peripheral fibres are supposed to be in their most degenerate condition. The exact manner in which this is brought about has not yet been demonstrated, but I should suppose that the increased rapidity of repair is simply due to the reunion of the nerve fibres with their centre of nutrition. There can be no doubt that at the time of suture the nerve fibres may be in an extremely degenerate condition, the myeline being destroyed and many of the axis cylinders absent, and yet that symptoms of union may occur within the first twenty-four hours, as in the cases to which I have alluded.

Prognosis of cases of secondary suture of nerves.—Speaking generally, I believe that the prognosis of cases of secondary nerve suture is that great improvement is almost certain to follow, and that success is to be expected in the majority of instances. I believe that this prognosis is justified by the histories of the cases I have mentioned. Naturally, perhaps, I am influenced greatly by the conditions of the patients I have myself observed, and when I have seen one after another improve, often after a year or two of paralysis and of deformity, I am inclined to think that if the nerve ends are still in contact there is yet hope for all. I have already endeavoured to explain the occurrence of many of the reported cases of failure, and shall again refer to this subject. As to the length of time that may be required for this restoration of function, nothing definite can be said; but where there is great muscular atrophy the surgeon may feel sure that a rapid restoration of power is a physical impossibility. I would give up no case until after several years. As in cases of primary suture I believe that restoration is both more rapid and more perfect in the young than in the old, that it is more rapid in warm weather than in cold, and that certain nerves—the musculo-spiral especially—are more prone to unite than are others. I would refer for further evidence to what I have already said on the subject of primary suture. In the case of secondary suture, however, a question has to be considered that does not arise in the case of suture of recently divided nerves. It is, What is the influence of the length of time that elapses between the injury and the suture? I confess that, at first, I was disposed to think that the length of time exercised more influence than I am at present disposed to attribute to it. Nevertheless, I still believe that it may in certain cases materially influence the result.

As I have already pointed out, the peripheral end may be in varying stages of regeneration or degeneration at the time of suture, and although it might perhaps be expected that a corresponding difference in the rapidity of union could be established, and though I myself had expected to find such a difference, I cannot say that my expectations have been realised. It certainly cannot be said that reunion follows more rapidly after suture performed a few weeks from the injury than after the same operation some months after section. Neither is the reverse true. I believe that a careful study of the recorded cases will show that, within at any rate the limits of a year, the time after injury at which suture is performed does not materially influence the subsequent rapidity or perfection of the union. My own experience is not yet sufficient to allow me to state definitely whether regeneration of muscle is to be expected in patients on whom the operation of secondary suture has been performed more than a year after the original injury. I have, however, seen two cases, in addition to those I have summarised above, in which marked restoration of sensation has followed upon secondary suture performed respectively two years and four years after the nerve was first divided. Both of these cases are yet recent, and muscular power is not at present definitely improved, but I am not prepared to say that it will not yet return.

Of the cases published by other authors, in one suture was performed fourteen months after injury; the case is recorded as a failure, but the patient was only kept under observation for three months after operation, so this report cannot be considered final. In one case the operation was performed after two years and a half. This, again, was a failure, but the patient was only observed for twenty-six days. In one case secondary suture of the sciatic was performed nine years after injury, with resulting improvement. In one patient a restoration of sensation followed suture of the median fourteen years after injury. The case was reported by Tillaux seven weeks after operation, and no improvement in muscular power is noted. In the latter case it is important to observe that the peripheral end was much atrophied, and further that in the resected portions no nerve elements were found, though on the latter fact I do not lay much stress. These are the only four cases in which suture was performed more than a year after injury.

The question then arises, Will the function of the muscles be restored if suture is performed at any length of time after injury? That restoration can occur in cases operated upon as late as a year after section there can be no doubt; but the published cases of suture after this time being only four in number are scarcely sufficient, nor are they reported with sufficient detail to allow of a definite answer. This much at any rate may be said: In no case has complete restoration of function yet ensued when operation has been delayed more than a year; that complete restoration is impossible I will certainly not pretend to say, but I may draw attention to certain facts which are, I think, opposed to such a belief.

In an earlier part of these lectures, in the section devoted to pathology, I have shown that some at least of the nerve fibres in the proximal end degenerate after section, and have given my reasons for believing that after the peripheral end has become in part regenerated it may again degenerate if union with the proximal extremity does not occur. It is, of course, possible that even after this, reunion with the proximal end may result in another regeneration, though such appears at least doubtful. At what period of time this second degeneration occurs I cannot say, and for my evidence in support of this theory I must refer to the section on pathology. But whilst a degenerate condition of the lower end may possibly prevent the success of secondary

suture there is another condition, altogether apart from that of the nerve itself, which has been overlooked by other writers, but which, I think, is of far greater importance.

It has been noticed by Dickinson and other writers that, in cases of amputation of the limbs, atrophic changes ensue after the lapse of years in the spinal cord; and Vulpian has further demonstrated that similar changes occur if instead of amputation the nerve trunks of the extremity are divided. Now, the changes that are described include serious destruction and atrophy of various parts of the spinal cord, and more especially of the large motor cells. These cells are the trophic centres of the muscles, and once they are destroyed it is very doubtful whether they can again be reformed. For this reason I think that after many years of solution of continuity of a nerve, it is most improbable that motor power can be restored by the operation of secondary suture. That there may be some return in sensation I can believe, and indeed the case by Tillaux seems to put this question out of doubt; but further evidence is required before any definite time can be assigned beyond which suture is useless. Meantime, I would never refuse to perform the operation merely because theoretically a good result seemed improbable.

Causes of failure of cases of secondary nerve suture.—In dealing with the causes of failure of primary suture of nerves I have already stated my opinion that this is frequently due to sloughing or extensive suppuration in the wound. The same causes may also prevent success in secondary suture. In the only case of secondary suture of the median, under my own observation, which resulted in failure, the wound, and probably the nerve, sloughed. In those cases where there was much suppuration union was generally more tardy. In a case recorded by Mr. Pye of secondary suture of the ulnar, the cause of failure was found to be the compression of the nerve by scar tissue, and after the latter had been separated, restoration of function was rapid. This case is quite analogous to that recorded by Busch-Madelung of a similar operation with a similar result for a case of primary suture of the musculo-spiral, in which the functions were not restored. The giving way of the suture also may undoubtedly cause non-union, and thus we find that all the causes of failure present in cases of primary suture may also bring about a similar result in those of secondary suture. The treatment also of cases in which secondary suture has not resulted in union is similar to that I have recommended in cases of failure after primary suture. The sutured nerve should be exposed. If its ends have become separated they should again be sutured. If the nerve is compressed by cicatricial tissue, or is unduly adherent, it should be freed from pressure and stretched.

Treatment of cases in which the resected nerve ends cannot be brought into apposition.—In a certain number of cases of old nerve injury it is impossible to bring the ends into apposition on account of their extreme retraction. Such a condition is fortunately not a common one, for the operation of stretching, followed by careful attention to position, is usually sufficient to overcome the retraction. I have never seen it necessary to abandon an operation from this cause alone. The question is, nevertheless, one of much importance for the few patients who may be in such an unfortunate position, and various remedies have been suggested. First, there are the two suggestions of Létiévant, to which allusion has already been made in dealing with the question of treatment of recent nerve wounds, where much nerve substance has been removed by injury. The treatment alluded to as recommended by this surgeon consists in either suturing the lower end on to a freshened surface on a neighbouring trunk, or else in splitting the upper end, and turning down a portion by way of a graft. Although I do not think that such treatment is to be recommended in cases of recent wounds, where by other means union may be obtained, yet I am not disposed to altogether condemn either of these methods in dealing with a case in which all attempts at union have failed, and in which the parts are left in a hopelessly crippled condition. Of the two suggestions I should prefer to practise the latter, as it does not involve any interference with neighbouring healthy nerve trunks.

The next suggestion is that the space between the separated end should be filled by "grafting" into it a portion of fresh nerve taken from an animal. The operation of nerve grafting and transplantation has been experimentally performed by Gluck and Johnson, and according to them with success. As far as I am aware there are only two cases on record of this operation having been performed on man for the relief of injury. The first case is recorded by Tillmans in the *Berlin. Klin. Wochen.* of June 8th, 1885. The patient was a woman aged twenty-two, in whom the median and ulnar nerves had been divided. On the operation for secondary suture being performed, the divided ends were found to be separated four and a half centimetres. The operator therefore grafted portions of nerves between the resected ends. Sensation began to return at the end of four weeks, and motility at the end of nine. The other operation was performed by Kaufmann. In a case of paralysis of the musculo-spiral, following on an injury to the nerve in an operation for removal of dead bone from the humerus, Kaufmann practised on Dec. 28th, 1880, the operation of nerve grafting. After having freed and refreshed the two ends of the musculo-spiral nerve there was left a separation of more than four centimetres. In order to free the gap, he transplanted a portion of the sciatic nerve of a dog. In the middle of the following February it was still impossible to pronounce on the result of this operation.[2]

In the following case the separation of the resected ends was overcome in another way—namely, by resecting a portion of the humerus, and so shortening the arm; the case is recorded of Bergmann.[3] The patient was a lad, aged fifteen, who had been severely wounded in the right upper arm by a circular saw. The wound had healed in about ten weeks, but the boy had lost all power of motion, and all sense of touch in his right arm and hand. An operation was performed in which the divided nerve was exposed, and it being found impossible to bring the ends together, two inches of the humerus were resected. The case has not yet been recorded by the operator, and it is not mentioned in the *British Medical Journal* which nerve was divided, or what was the result.

With regard to the question of the best operation to perform in any case occurring in actual practice, I may say that I do not consider it advisable to perform so severe an operation as resection of a portion of bone in order to bring the divided nerve ends into apposition. Neither am I at all favourably disposed towards the grafting of portions of nerve from animals. I believe that in most cases the best thing to do would be to resect the ends, to bring them into as close apposition as possible, and then to enclose them in a Neuber's decalcified tube. If I did not do this I should follow Létiévant's advice, and turn down a piece of the proximal end after splitting it, in the manner I have already described.

Clinical Lecture
ON
THE JAUNDICE OF INFANTS.

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GENTLEMEN,—From the earliest records which we possess of the study of medicine we find that jaundice has at all times been a most interesting subject, while the most careless observer must be arrested by the striking appearance of the person affected. The circumstance that jaundice is not in itself a disease, but merely a symptom depending on a great variety of causes, presents the careful and scientific physician with problems of surpassing importance; for until in any given case he can unravel the cause of the jaundice he must feel that both his prognosis and treatment may be entirely at fault. As you have seen at this Children's Hospital and at the Royal Hospital, jaundice may be met with at all periods of life. It is, however, to that form of jaundice which occurs among infants that I wish to-day to direct your attention, a subject about which your ordinary text-books give you but scanty information. My remarks will be based on the experience I have gained in this hospital and in private practice during the past six years. I propose to say a few words about the various

[2] Rev. de Sci. Méd. vol. xxiv., 1884, p. 305.
[3] British Medical Journal, 1884, vol. ii., p. 1085.

varieties of infantile jaundice, and the line of treatment to be adopted in each. Let me first, however, draw your attention to a condition of matters met with in the newborn child to which, I think unfortunately, by some the term "icterus neonatorum" has been applied. On the second or third day after birth, on visiting your lying-in patient, you will sometimes be told in alarm or in wonder that "the baby has the jaundice," and in confirmation of this statement you will be asked to look at the yellow colour of its skin. If, however, you observe with care you will note that the conjunctivæ of its eyes are white, and on inspecting the diapers you will see neither pipeclay motions nor stains of high or saffron-coloured urine; in a word, there is no evidence of jaundice present except the apparent yellowness of the skin. Those of you who have taken out your midwifery cases know that at birth the surface of the infant's body is covered with a white or yellow adhesive coating—the vernix caseosa—which is composed of sebaceous and epidermic cells and fat. If you have not already observed this circumstance, note carefully at the first opportunity you have the condition of a new-born infant's skin from which this vernix caseosa has just been washed off. You will see that it is of a rosy-red colour, and in a short time, if with your finger you press the skin so as to empty the small superficial bloodvessels, you will see a distinct trace of a yellow colour which gradually increases. This begins on the second or third day, lasts about a week, and is generally gone about the tenth day. You will as a rule observe that this apparent yellowness is most marked just in those places where the redness has been greatest. Now there is one point in reference to this form of pseudo-jaundice which is worth noting. As you are aware, the usual plan is to tie the umbilical cord as soon as the child has breathed freely, but the experiments and observations of Budin,[1] Schücking,[2] Engel,[3] and others have shown that if you delay ligaturing the funis until all pulsation has ceased the child will receive a certain quantity of blood, which by early tying would be left in the placenta. Further, by adopting this method children are more vigorous and active. They lose less weight immediately after birth, and subsequently are said to increase in weight with greater rapidity than those children in whom early torsion of the cord has been practised. The advantage of the late ligature of the funis is very marked in premature children, as it has been ascertained that the mortality in their case with the adoption of this practice is only one-half what it is when the cord is tied early. During the past two years I have, in my obstetric practice, adopted the plan in all cases (except in a few where, owing to the mother's condition, it was necessary to expedite the delivery of the placenta) of waiting until all pulsations in the funis have ceased before putting on the ligature, having been convinced by the observations and experiments of the authors I have mentioned, as well as by the practice of the continental lying-in hospitals, that such a method is better for the child than tying the cord as soon as it cries or breathes freely. Since adopting this practice I have met with more of these cases of apparent jaundice, which is, however, in no way detrimental to the child, and which is probably due to changes in the circulation of the skin and gradual disintegration of the abundant blood cells. The fading of the rosy redness which comes on soon after birth in its gradual changes leaves behind it a yellow tinge, like that seen in a vanishing bruise.

We now, gentlemen, come to the discussion of real jaundice in infants; and the cases I have seen in this hospital and in private practice are sharply divided into two classes. In the one, the jaundice, as a rule, is mild and the infants recover, while in the other group the jaundice becomes more intense until the fatal termination. I have notes of several cases where the discolouration of the skin, the yellow conjunctivæ, and the white motions with high-coloured urine have been present, this condition of matters, with varying intensity, lasting from about a week to ten or fourteen days. The children seemed to suffer little, and all recovered. Many of them were first-born children. Dr. Charles West teaches that exposure to cold or a vitiated atmosphere may be a cause of the disease, and in support of this he states that in the Rotunda Lying-in Hospital jaundice is rare, while in the Paris foundling hospitals nearly all suffer from it, the reason being that in the former hospital they are properly cared for, while in the latter the air is bad and the children are exposed to cold. As to the exact causation of this mild form of jaundice we are still in the greatest doubt, because fortunately the children, as a rule, recover; and consequently autopsies are rare. Different observers have given very diverse explanations. While Virchow thinks this form of icterus is due to a gastro-duodenal catarrh, Frank believed it is the prolonged retention of the meconium which is the cause. Cohnheim held that the bile secretion was increased rapidly after birth to such a degree that it could not be eliminated, while Frerichs taught that it was due to changes in the hepatic circulation. An explanation put forward by Birch-Hirschfeld is accepted by some as accounting for the jaundice. This observer has shown that the vessels in the notch of the liver, and also for some distance within that organ, are surrounded by a layer of fibrous tissue. This gets œdematous and becomes swollen, when, owing to a prolonged or difficult labour, there is interference with the hepatic circulation, and by its compression gives rise to obstructive jaundice. I mention these various theories, but do not think that any one will cover all the cases. There is a ready method by which you can tell whether the jaundice is real or apparent. If a piece of white linen fastened round the child's loins be coloured yellow, then you may be sure it is a case of true jaundice.

I will now ask you to consider the very important group of cases where the jaundice gradually deepens and the infants die; and the following cases are types of the various conditions which may give rise to fatal jaundice.

CASE 1.—I show you to-day a small, shrivelled, miserable-looking infant three weeks old. You see it is intensely jaundiced; its eyes and skin are yellow, and in the upper half of its body note the presence of some purpuric spots. You also see blood oozing from its mouth. The umbilicus is normal. You see its diaper is stained a yellow hue. Its mother tells us that at birth it was healthy-looking, but at the beginning of the second week its skin and eyes "turned yellow," its motions became white, and its water high coloured; and all these symptoms have gradually deepened. It is a full term child, but the mother has had a premature baby, and from what she tells us of her having had a sore throat, rash, and falling off of the hair, there is a clear specific history. We look upon the jaundice here (especially from the history) as being due to some form of syphilitic inflammation or growths compressing the bile-ducts (the peri-pylephlebitis of Schüppel), and our prognosis is of the worst kind. (This child died twenty-five days after birth.)

CASE 2.—I will now give you the notes of a very interesting case of a child which I saw some years ago. When born it was noticed to be of a yellow hue, and this has gradually got more marked. The urine was jaundiced, and the mother said "there was something wrong with the way it passed its water." The motions were always white. The child was bottle fed and had not thriven, and within the last two weeks before my visit it had passed blood-stained mucus by the bowel. It was an only child, and there was no specific history. There had never been any bleeding from the umbilicus. The child when I saw it was small, more like a month than a three months' baby, emaciated, and deeply jaundiced. There was no enlargement of the liver to be detected, nor of the hæmorrhoidal veins. The foreskin was retracted. No urethra was to be seen in the glans or body of the penis, but on its under surface, close to the scrotum, there were two small apertures, one on each side of the middle line. On attempting to pass a filiform bougie into one of these the child voided a quantity of deep saffron-hued urine. There were no spots on the body or sores around the anus, and the child did not snuffle. The umbilicus was natural looking. The child died in two days after I saw it. Now although most unfortunately no post-mortem examination was made, I have little doubt that the jaundice in this infant was due to some congenital stricture in the bile-ducts, from the following facts—(1) the progressively deepening jaundice; (2) the gradual emaciation; (3) the presence of an evident malformation (hypospadias); (4) the intestinal hæmorrhage; (5) the absence of syphilitic history.

CASE 3.—An infant, three weeks old, was seen by me in the out-patient room of this hospital at the beginning of the present session. The woman (its aunt) who brought the baby said its mother had taken ill with a "shivering" three days after the birth of the child, and had been unwell ever since and "unable to give it drink." A week

[1] A quel moment doit-on opérer la ligature du cordon ombilical? Progrès Médical, 1876; also Obstétrique et Gynécologie, 1886.
[2] Zur Physiologie der Nachgeburtsperiode: Berlin Klin. Woch., 1877.
[3] Centralblatt für Gynäkol., 1885.

after birth the child first became yellow, and the colour had got worse, the aunt says, up to the time she came to the hospital. It passed blood per anum, and had been vomiting almost constantly for a week before I saw it. The child, which was very puny, was completely jaundiced. The tongue was dry, the abdomen swollen and painful, temperature 101°, and a mixture of blood and pus welled from the umbilicus. Subsequently I learned that the mother had been ill with puerperal fever, and at a later period I admitted her into my ward at the Royal Hospital, where some of you saw her, with pelvic cellulitis. The child died ten days after it was first brought to the hospital. In this case the jaundice was due to umbilical phlebitis, caused by the same poison, probably, as that which infected the mother.

Now, gentlemen, these three cases are, as I have said, types of the conditions which I have met with as causing fatal jaundice in infants. 1. Syphilitic growths and inflammation. 2. Malformation of the bile-ducts. 3. Umbilical phlebitis. In reference to the second type, it is a curious but well-observed fact that this condition of matters (as pointed out long ago by Dr. Cheyne) is liable to appear in successive children of the same family, an important factor in diagnosis. I am aware of a case where three successive children in one family have died of jaundice caused by malformation of the ducts. Further, bleeding from the umbilicus sometimes is noticed in these cases; and you will remember, I hope, that this umbilical hæmorrhage is of bad prognostic import, as when it occurs the fatality is more rapid. I show you here a chromo-lithograph of a liver from a case of congenital malformation of the ducts. You see it is of a deep olive-green colour, and is in a cirrhotic condition. It is probable that the cirrhosis is secondary to the obliteration of the ducts, as Dr. Wickham Legg has shown that tying the bile-ducts of an animal will in time give rise to a somewhat similar condition of the liver. Dr. Legg thinks that this cirrhotic condition prevents the blood circulating through the liver, and in consequence it passes along the line of least resistance, from the left portal vein to the ductus venosus, and thence to the umbilicus, where the imperfectly healed vessels of the umbilicus yield to the increased arterial pressure, and hence oozing of blood takes place.

Let me say a word in conclusion as to treatment. In the simple form of true jaundice in infants you will see that the bowels are kept regular, and a mixture of a little soda and taraxacum juice will generally bring matters right. In malformation of the bile-ducts no treatment is of any use, while in those cases in which there is a specific history small doses of grey powder should be tried, and the parents should be brought under a mercurial course, so that if there be any more children the virulence of the syphilitic poison may be destroyed or lessened. The prevention of umbilical phlebitis is best done by the employment of antiseptics in midwifery, this form of infantile jaundice being unknown in those lying-in hospitals where rigid antiseptic midwifery is practised.

ON RELIEVING TYMPANITES BY PUNCTURE OF THE ABDOMEN.

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(*Continued from page 59.*)

IN 1869, Dr. Braxton Hicks recorded four cases, in the Transactions of the Obstetrical Society,[1] of puncture of the abdomen for flatulent distension; and he alludes to the discussion of the question which had lately taken place in Paris when this treatment was commended, twenty cases, he observes, of the procedure having been included in the paper read. (I have not as yet been able to find any further account of this discussion.) Dr. Hicks says he thinks there is not much risk of extravasation into the peritoneal cavity, as if the smallest exploring trocar be used the tissues of the bowels are rather separated than cut, so that the opening is closed as soon as the instrument is withdrawn. He alludes to extreme tympany as one of the dangers of peritonitis, as pressure of the gas on the sympathetic and the tension of the tissues they supply must add to the collapse and vomiting.

[1] See pp. 47-48.

In 1869, also appeared a case, in the *British Medical Journal* of Aug. 20th, described by Dr. Davey (then of Bristol), of tubercular peritonitis in a child for whom paracentesis was performed by Mr. Salmon of Thornbury, for relief of painful distension by flatus. Large quantities of fetid gas were let out, with great ease to the patient, and this gas continued from time to time to pass off until the death of the child ten days afterwards. It was found, after death, that ulcerative communications existed between the bowel and the peritoneal cavity. Dr. Davey quotes from the *Medical Press and Circular* of April 7th, 1869, two cases in which Dr. Fonssagrives of Toulouse[2] had lately punctured the abdomen several times with marked success, when the patients were in extreme peril from tympanites.[3] He also states that he was informed by Mr. N. Leigh, veterinary surgeon at Bristol, that he had often performed this operation with a trocar or pocket-knife, chiefly on cows, more rarely on horses, and with good results.

In 1869, Dr. Clifford Allbutt of Leeds recorded in the *Practitioner*[4] the case of a man with pneumonia attended by fæcal obstruction and most painful and extensive tympanites with hiccough, in which, after the unsuccessful adoption of other remedies, he had the abdomen punctured by Mr. T. P. Teale, who plunged a No. 1 exploring trocar into the distended transverse colon, "by which," he says, "a large quantity of highly offensive air was let out, and then again into the descending colon, with the same result. The abdomen became quite soft, the greatest relief followed, and the patient soon sank into sleep." Shortly afterwards the bowels recovered their activity. The patient sank from the pneumonia. Post-mortem examination showed no trace of peritonitis, nor "had air entered into the peritoneal cavity." No traces of the punctures which had been made could be discovered, except on the surface of the bowel. After dilating on the good effects of such a painless operation giving great and ready relief by emptying the bowel and allowing it to contract upon, and expel, accumulated fæces, Dr. Allbutt remarked that if the medical attendant, on an emergency, has not a fine trocar at hand he may use the needle of his morphia syringe.

In the same year (1869) Mr. Thomas Smith communicated to the Clinical Society[5] the particulars of a case of ruptured intestine, in which the bowel was punctured for relief of distension by flatus. This was done by a fine trocar through the linea alba, half-way between the pubes and umbilicus. "The effect of the puncture was immediate, and the relief to the boy's suffering very great. A large quantity of offensive flatus escaped, the vomiting was less urgent, and he soon afterwards fell asleep. Three hours after the puncture the bowels acted freely, not having before been moved since the accident, seven days previously." Mr. T. Smith quotes a case, from the *Bulletin Gén. de Thérapeutique* for 1867, of obstruction of the bowels, in which, as a last resource, the small intestine was punctured with a fine trocar. A large quantity of gas escaped, and on the same day the bowels acted twice. Fifteen days afterwards, and again later on the puncture was repeated, and on each occasion with the same good result. He also quotes M. Laforgue of Toulouse, who had employed puncture for tympanites in two cases.[6] In one case the puncture was repeated six successive times with great advantage.

In 1870, Dr. H. Wathen, then of Fishguard (now of Clifton), communicated a case to the *Practitioner*,[7] in which a woman with acute peritonitis, accompanied by distressful tympanites, had the puncture performed. A No. 1 trocar was plunged, firstly into the transverse, then into the descending, and lastly into the ascending colon. Relief was at once afforded. The patient, however, sank the next morning.

In the following year (1871) Sir Risdon Bennett (then Dr. Bennett) communicated to the *Practitioner* of Feb. 1871 a short paper on Mechanical Means of Relief in Certain Cases of Inflammatory Effusions, founded on a highly interesting case of peritonitis, which he had seen at Christiania, wherein large quantities of inflammatory products were withdrawn from the abdomen by trocar, and a drainage tube was long worn,[8] and in which also the colon had been punctured for tympanites, apparently, in the patient's view, preserving

[2] See Gibson. [3] Quoted from L'Union Médicale.
[4] February number, p. 109. [5] Trans., vol. ii., p. 64.
[6] L'Union Médicale, Oct. 23rd, 1867. [7] Vol. v., p. 262.
[8] The natural evacuation of purulent fluid through the umbilicus in cases of peritonitis (analogous to the process which sometimes occurs in pleurisy) has been several times observed. Such cases are mentioned by Dr. West in his Lectures on the Diseases of Infancy and Childhood. (Third edition, pp. 88 and 505.)

life by relieving the accumulation of flatus. Dr. Bennett, in addition to very valuable suggestive remarks on the case, showed that he was quite in favour of puncturing for excessive tympanites, and believed that great advantages were likely to be derived from its practice, though it was "not devoid of danger."

In 1871, Dr. Wathen communicated a paper to the *British Medical Journal* (Oct. 21st), in which he gathered together some of the English cases of which I have given an abstract, and registers another—a case of dysentery in the practice of Mr. Thomas—wherein puncture of the ascending and transverse colon was performed with the best results. Dr. Wathen alludes to the puncturing of cattle for tympanites, as used by graziers, and concludes with the following remarks: "When I picture to myself the immense distress and suffering present in an intensely tympanitic patient, whatever may be its cause, and then recall to mind the ease and quiet, if not anything more, which we are enabled to afford our patient by what I am bound to describe as a simple, harmless, and painless operation, I feel drawn to the conclusion that it is a proceeding not only justifiable, but urgently demanded at our hands." In a letter which I received in April last from Dr. Wathen, he says that he has not had further occasion to puncture the abdomen for tympanites; but that he had been called upon, along with Dr. Howard of Newport, Pembrokeshire, to puncture a large hernia several times with the view of reducing its size.[9] Subsequent to Dr. Wathen's communication, Dr. Saunders, resident physician at the Devon Asylum, sent a memorandum to the *British Medical Journal*,[10] in which he gives an interesting *résumé* of what had been advanced by authorities in the last century regarding the proceeding in question. To this communication I have elsewhere alluded.

In the same year (1871) the same journal (Nov. 4th) contained the details of a case, related by Mr. Brown of Ealing, of a boy suffering from tubercular peritonitis. Collapse came on in spite of remedies; but entire recovery followed puncture of the abdomen, which was performed on two occasions by means of a small trocar, liberating large quantities of fetid air, followed by a drop or two of pus.

In the year 1873 (February), Dr. H. C. Cameron read before the Medico-Chirurgical Society of Glasgow[11] a paper on what he termed "Colo-puncture." In this he described the case of a man who, after an operation on the leg, had rigors, and pain and swelling of the abdomen. As the abdominal distension became extreme, after fruitless resort to other means, puncture of the colon was performed; and this had to be done on eight separate days,[12] with the greatest relief and at the urgent desire of the patient, who got well, no increase of the peritonitis taking place. When the over-distension of the bowel arises from mechanical obstruction, Dr. Cameron thinks that the operation has, very often, many advantages over the use of the long tube passed into the bowel. It is, if properly done, he says, not more risky, inasmuch as some danger, and often difficulty and great discomfort, attends the use of the tube, and its success is by no means uniform. The undesirability of repeating the passing of the rectal tube is great. Dr. Cameron closes his paper by indicating the precautions necessary to be taken in performing these operations—viz., that the cannula should fit very accurately around the collar of the trocar, that the trocar be of sufficient length—that is, three or four inches long—that any amount of pressure on the abdomen should be avoided (for fear of squeezing out fluid from the bowel), that the puncture should always be at the most prominent part of the abdomen as the patient is lying.[13] In the discussion upon Dr. Cameron's paper, Dr. Lyons said that, in a case of his, fæcal matter was found, on post-mortem examination, in the peritoneal cavity, but that this might have escaped after death. Dr. Buchanan had, since 1819, seen half a dozen cases of puncture for tympanites. He advocated the plan of puncturing the bowel with an aneurysmal needle threaded with wire, withdrawing the needle, and leaving the wire as a loop inside the bowel, which could be moved daily, thus allowing escape of the gas and avoiding the necessity of repeated puncture. Dr. E. Watson doubted the advisability of puncturing the abdomen in cases of inflammation. At a later date,[14] Dr. Cameron suggested colo-puncture in a case of intestinal obstruction arising either from paralysis of the walls of the bowel or from bands of lymph (of nine months' standing), under the care of Dr. McGown, which was completely successful. In this case liquid fæces, which were escaping through the trocar, were washed back by tepid water. Three hours after the operation the bowels had copious relief, and the patient recovered quickly. In the discussion at the Glasgow Medico-Chirurgical Society upon this case, Dr. Glaisher and Dr. J. Coats said they had performed the operation. In a private letter Dr. Cameron informs me that he has performed the operation in many cases of over-distension by flatus. He considers that, when done with proper precautions, it is quite devoid of danger, and in many cases is very useful. He remarks that "gas seems occasionally to exist in compartments in the intestine, even in cases in which the entire abdomen appears greatly and uniformly distended. "I suppose," he says, "sharp bends and turns of the gut may thus subdivide the gas into separate collections. At all events, it often happens that, immediately on the withdrawal of the trocars, gas whistles through the cannula with as much force as might blow out a taper, but in a minute or two stops, even although much tightness and distension continue. In such cases I do not hesitate to puncture in a second spot." He tells me of the case of a lady five months pregnant having obstruction of the bowe s, which were enormously distended, no evacuations having taken place for five days, which he lately punctured in two places. He observes that "only a small quantity of gas escaped, still she soon began to pass flatus 'per anum'; a movement of the bowels followed, and she recovered. At the time of the operation she was within a very measurable distance of death." In another case, obstruction of the bowels following fracture of the leg, Dr. Cameron punctured on two successive days, and, as a result, flatus began to be passed per rectum; the bowels were moved, and the man got well of the obstruction. He died of pneumonia later on, and at the post-mortem examination it was found that there had been intussusception of the bowel.

In 1876 an interesting case was published in THE LANCET[15] by Dr. Finch of the Leicester Borough Asylum, showing the use of the aspirator in relief of excessive tympanites attended by vomiting, constipation, and abdominal pain, which seriously embarrassed the heart's action. The instrument was introduced half way between the pubes and umbilicus, and a large amount of flatus withdrawn, with immediate good result. Two days later the patient was worse as to vomiting, &c., and she appeared to be moribund. As a last resource the aspirator needle was again used, being passed into the cæcum, when a large quantity of gas and a little feculent fluid escaped. Action of the bowels followed, and there was no further use for the puncturing. No inflammatory action arose, and the patient recovered.

In 1877, Dr. Godlee brought three cases before the Clinical Society of London,[16] in which gas was contained in the peritoneal cavity, without any perforation of the bowel existing. These were adduced as drawing attention to an incident which may happen in the course of the operation of colotomy. In one case there was ulceration of the colon, in the second one colotomy was performed, but the amount of gas which was met with in the peritoneal cavity for a time prevented

[9] With regard to the procedure of getting rid of flatus in strangulated hernia, here and elsewhere alluded to, Dr. Cameron (referred to later on) offers an objection—viz., that "if it do not succeed, and an operation becomes necessary, the free handling of recently punctured gut might possibly lead to unpleasant consequences." On this point, also, I will quote Mr. Bryant, who, in a Clinical Lecture on Intestinal Obstruction (see Medical Times and Gazette, April 20th, 1872, p. 455), stated that his prejudice is much against puncturing the bowel in cases of hernia, when distended with flatus, owing to the risk of escape of fæces or fluid, though he had resorted to it in two cases of ileus with immense advantage. He remarked that at Guy's Hospital the operation had been done more frequently than at any other institution; and that Mr. Stocker, "who had had more clinical experience than almost anyone in London," has always been in favour of it. He quoted the case of an old man with strangulated scrotal hernia, in which the operation of pricking the bowel four or five times was successfully performed. Mr. Dent, of St. George's Hospital, who says that he has "a strong disbelief in the utility of puncturing the intestine in tympanites," thinks that in strangulated (external) hernia, though the distension appears to constitute the chief difficulty of reduction, "puncture does not enable the gut to be reduced more easily or without division of the stricture, and therefore inflicts a needless injury." The late Mr. Tatum, a former colleague of mine at St. George's Hospital, was in the habit of puncturing the intestines when, owing to their distension during the operation of strangulated hernia, they could not be easily reduced.

[10] Nov. 18th, 1871.

[11] Glasgow Medical Journal, May 1873, p. 289.

[12] On one occasion relief was not obtained, as the instrument did not pierce the bowel. This points to one possible source of failure in the operation.

[13] To meet the risk from fluid being squeezed out of the bowel, it is suggested that a small syringe should be used with warm water to wash back any fluid fæces which may exude through the trocar.

[14] Glasgow Med. Journal, 1880, p. 444.

[15] October 7th.

[16] Transactions, vol. x., p. 115.

the colon being found, as the peritoneum was protruded by the gas in the cavity. In the third case (as in the second) colotomy was performed by Mr. Heath.

In 1879, Mr. G. Brown brought before the same Society[17] a case of typhoid fever, in which an accumulation of odourless gas took place in the peritoneal cavity, without any perforation of bowel occurring. Puncture, with absolute relief to urgent symptoms, was resorted to; the pulse fell at once from 50 to 36, and the heart regained its natural position. This change enabled a greatly distended condition of the urinary bladder to be recognised. Mr. Brown's account contains some interesting speculations as to the origin of the gas formed within the peritoneal sac.

In 1879, Dr. Broadbent described in the *British Medical Journal* (Sept. 27th) a case of intestinal obstruction, owing to the pressure of a pelvic tumour, successfully treated by repeated puncture of the small intestine by means of a long aspirator needle. He mentions some necessary precautions to be observed in performing the operation.

In 1884, Dr. Hunter brought before the Obstetrical Society of New York[18] a case in which, following a subsequent peritonitis, tympanites was so urgent that the patient appeared moribund. The use of the long rectal tube proved insufficient for relief, and the abdomen was punctured by a long hypodermic needle, when gas escaped, and continued to do so for half an hour. The patient recovered. The gas was not offensive, and had accumulated in the peritoneal cavity. In the discussion, Dr. Nicoll, Dr. Murray, and Dr. Polk related cases showing the good results of the operation. In a subsequent meeting the latter gentleman quoted another case in which death was averted by the operation.

Quite recently Mr. W. Furner brought before the Brighton and Sussex Medico-Chirurgical Society[19] two cases of abdominal puncture for flatulent distension. In both instances fæcal escape took place; and in one case it was found, after death, that it was the small intestine which had been pierced.

(To be concluded.)

ON INHALATION AND THE LACK OF PRECISION IN THE METHOD OF USING IT;

WITH A DESCRIPTION OF DR. ISOARD'S "SULFHYDROMÈTRE."

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CONTINUING my tour of inspection of continental spas, it was my good fortune to visit Allevard in the lovely highlands of Savoy last September, and in the hope that I may be able in some slight degree to contribute towards our knowledge of "healing springs," I submit the result of notes taken at Allevard, together with translations from those of Dr. Isoard.

1. *On inhalation and on the lack of precision in the method of using it.*—The inhalation of the gaseous constituents disengaged by sulphurous mineral waters has gained in the therapeutic treatment of diseases of the respiratory passages a rank which is now no longer disputed. Clinical observations have proved its value. The superiority of this method is the result of the double action that it allows the sulphurous vapour to exercise on the organ. The first, which is entirely local, is due, as is now well known, to contact with the very sensitive mucous membrane of the bronchi; the second, which is general, resembles that of water taken in drinking, and is the result of its absorption by the lung and subsequent diffusion over the whole system. But even if no doubt be thrown on the power of this treatment, yet we must acknowledge that it is applied under very defective conditions. Neither doctor nor patient has any means of determining the intensity of the treatment pursued. It is graduated, indeed, simply by calculation of the time of remaining in the inhalation rooms. Yet nothing could be more uncertain than this determination. Numerous experiments made with test papers, either entrusted to patients or placed in different parts of the room, or by a standard sulphydrometer for water, have shown that there are considerable differences in the quantity of mineral constituents diffused in the atmosphere.

Dr. Isoard found in two experiments a degree of sulphuration four times greater in the one than in the other; and yet at Allevard, where the method was first used, nothing was neglected to ensure the inhalation all its power; the arrangement of the rooms leaves nothing to be desired; the water which feeds them is subjected to a system of spraying and evaporation, which releases from it nearly all the gas it holds in suspension. The reason of this variation lies in the fact that the chemical composition of the atmosphere can be altered by causes which an irreproachable arrangement could not foresee. I will confine myself to quoting the most evident: (1) certain barometric conditions favour or impede the disengagement of the gas contained in the waters; (2) the proportion of sulphurous vapour mixed with the air of the room varies according to the number of patients in the room and the time which has elapsed since the beginning of its action.

2. *Consequences of irregularity of treatment.*—The variation in the degree of impregnation of the air intended for inhalation being recognised and its principal causes pointed out, it is necessary to indicate the inconveniences, even dangers, to which those who undergo it are thereby exposed. All the gases given off by sulphurous waters have not the same therapeutic importance nor the same harmlessness. Carbonic acid and nitrogen, for example, only increase the proportion of these same elements which enter into the composition of ordinary air; and even if their action on the animal economy can sometimes be profitably employed, yet it may be said that it is not sufficiently powerful to necessitate a rigorous system of dosing. But the same remarks do not hold good of sulphuretted hydrogen, a very powerful gas, to which the inhalation owes its curative properties, and which standardises the therapeutic richness of all sulphurous waters, since therein lies the resultant of all the decompositions of the various substances which are dissolved in the waters. The absorption of this gas by the pulmonary passages is preceded by an energetic action on the tissues with which it comes in contact before being assimilated into the blood. This local action shows one of the most remarkable therapeutic properties of the gas—namely, that which is due to the slight excitatory movement to which it gives rise, and whose resolutive action on lesions of the respiratory organs is nowadays well known and established. But this excitatory or inflammatory movement requires the greatest vigilance. The limit may easily be passed. Congestion, even hæmorrhage, may result from the unseasonable or irregular administration of a remedy otherwise very valuable. There is therefore an absolute necessity of giving this mode of treatment the degree of precision which it lacks, a defect which is very often the only reason for hesitating to try it. The number and duration of the sittings give altogether insufficient indications of the quantity of sulphuretted hydrogen absorbed. Some patients believe they can be guided by the intensity of the characteristic odour liberated by the water. This proceeding gives rise to the same errors. The odour of the water does not give a measure of its degree of sulphuration. It would be more logical to take as a guide the observed physiological effects. But everybody cannot gauge them to the same degree, and their manifestations are not absolutely constant. Yet an analysis of the air of a hall, every time it is to be used, is out of the question. That would necessitate the construction of a small inhalation room for every patient. What is absolutely indispensable is not an analysis giving the exact quantity of sulphuretted hydrogen diffused in the atmosphere, but a method capable of indicating in a visible manner, evident to everybody, the variation in the degree of sulphuration of the atmosphere intended for inhalation; in fact, a kind of registering apparatus by means of which every patient can follow the graduation of his treatment.

3. *Mode of using Dr. Isoard's sulphydrometer.*—Dr. Isoard says: "The process which I propose to employ seems to me to fulfil all the conditions," which we have discussed above. "It consists simply of an application of the means I have used to find out the irregularities I have mentioned. The test papers, impregnated with a solution of a salt of lead, take in contact with the sulphuretted hydrogen a tint which is the more intense the longer the exposure is continued, as the degree of sulphuration of the atmosphere is high. It seemed to me natural to take the shades which correspond to the time usually given to the sittings, and to exactly reproduce them in unalterable colours, forming a gradation of tints through all of which the test papers have to pass, and to give the gradation thus obtained a form easy of com-

[17] Transactions, vol. xii., p. 235. [18] Ibid., June 3rd.
[19] British Medical Journal, May 5th, 1887.

parison. Moreover, the scale of shades has been determined in a room set apart at my disposal for this special purpose. The quantity of the water was carefully ascertained and also the amount of sulphuretted hydrogen it contained. No patient was allowed in the room during the experiment. The tints, then, have been obtained in an inhalation room acting under the most regular conditions. They have been arranged on a card pierced with two longitudinal slits to admit of the application of the test paper opposite the shade one wishes to obtain. The greatest care has been given to the reproduction of these tints, to the choice of paper, and the preparation of the solution with which it is impregnated. The indications which this table can furnish will have a character of precision, which a measurement of the time passed in the room cannot give.

"Of course it must not be required of a process like this to furnish with the exactitude of a laboratory instrument the quantity of sulphuretted hydrogen in the air in milligrammes—that is, moreover, not necessary. But this apparatus, placed in the room beside the patient, or affixed to his clothing, undergoing simultaneously with him the action of the air he breathes, informs him whether he ought to prolong or shorten his stay, and gives him a protection against the disappointment of an illusory treatment and the unpleasant surprises of one too strong. The mode of using it is so simple that everyone can do it. The shade of the test paper must coincide with the one which has been assigned to the patient on the graduated table. This comparison is much facilitated by applying to the apparatus a narrow, thickish piece of paper, pierced with an opening, across which the juxtaposed tints are compared. The sulphuretted hydrogen acts with most intensity on the edges of the paper. It is the middle portion that should be compared with the table. To regulate the intensity of the treatment according to the degree of sensitiveness of the paper, it suffices to know that tint No. 1 corresponds to the shortest sitting usually prescribed (about three minutes).

"All that I have said refers to *cold* inhalation, the one usually practised and whose use requires the most care. It is so called because the rooms thus used are supplied exclusively with cold mineral water, and thus have a temperature differing but little from that of the open air. But there is another kind of inhalation, the *tepid* or *temperate* inhalation. It differs from the first in that the rooms assigned to it, and the mineral waters also, receive a jet of steam from ordinary water, which, while partially condensing, raises the temperature of the room to about 28° C. or 30° C. (= 82° F.—86° F.). This condensation gives rise to a light spray formed of very minute drops, whose part an ingenious theory has well explained. These minute drops dissolve the gas given off by the mineral water on account of the temperature and pressure forming a spray of chemicalised water in so fine a state of division as no pulverisation could produce, and thus penetrates, with the sulphurous element, into the finest ramifications of the bronchi.

"It is evident that this treatment, which has its special indications, is nothing but a simple application of thermal hydro-therapeutics. One thing which distinguishes the tepid inhalation is the fact that the sulphuretted hydrogen coming by this process in contact with the mucous membrane of the bronchi has a more feeble local action on it. Everyday experience proves, indeed, that a length of time can be given to the sittings for tepid inhalation which would be dangerous for cold inhalation. The sulphydrometer, since it does nothing but faithfully show the variations of the degree of sulphuration of the atmosphere, can be used in all the rooms assigned to the two kinds of inhalation. In the tepid inhalation rooms, however, the shade corresponding to the shortest, which is taken as the starting point, should be one degree higher than in the cold inhalation rooms, on account of the greater tolerance of the action of the gas, which I have mentioned, and the greater sensitiveness of the test papers in a humid atmosphere. The name of sulphydrometer, given to an apparatus which does not accurately determine the dose of sulphuretted hydrogen, may seem pretentious to some; to me, however, it seems justified. Nevertheless, I should be glad if only its title is contested, if its utility is recognised, and if a kindly reception is accorded to my modest efforts towards a therapeutic treatment which has stood its tests, but whose results will be more constant when scientific and precise methods of using it are employed for its application."

The waters of Allevard are of the same character as those of Aix-les-Bains, but being at a higher elevation the air is more bracing. They are beneficial in rheumatic and gouty ailments, sciatica; particularly beneficial for throat affections and delicate children. The majority of persons who resort to Allevard labour under affections of the organs of respiration. I have had demonstrated to me the great benefit derived from the Allevard treatment in lymphatic tubercular subjects, cases of chronic laryngitis, asthma, and pulmonary or laryngeal affections. Dr. Niepce (the medical inspector of the baths) speaks highly of Allevard as a health-resort for children, especially if suffering from chronic pharyngitis and enlargement of the tonsils. Allevard is not two hours further than the now fashionable Aix-les-Bains, on the same line of rail, and we get a fresher air, away from excitement, excessive luxury, and their accompanying expenditure. The fame of mineral waters is a thing of slow growth, and of no great permanence when gained; many highly esteemed by the last generation are now wholly disused. I feel confident that the more Allevard and the medical treatment there are known, the higher it will rise in public esteem.

Ladbroke-grove, W.

TRACHEOTOMY AND INFLATION IN THE TREATMENT OF A STILLBORN CHILD.

BY CHAS. SCOTT WATSON, M.D.

THE treatment of stillborn children is so unsatisfactory in some cases that I make no apology for publishing the following unsuccessful case, in which the ordinary treatment was supplemented by tracheotomy and inflation of the lungs.

Mrs. H——, aged twenty-nine, was confined of her second child (a boy) on Jan. 5th, 1887. Her first child was born two years and a half ago, after a severe instrumental labour, and lived four days. Concerning the confinement, in which I attended her, the following points may be mentioned:—I was called to her at 5 P.M. on the 4th, she had been in labour since 2 P.M., the os was the size of a shilling, the membranes intact, and the vertex presenting in the first position. At 7 P.M. the os was fully dilated and the membranes were ruptured. The head entered and stuck in the brim of the pelvis, and at 2 A.M. on the 5th forceps were put on and delivery easily effected. On the delivery of the head the mouth and throat were cleared of mucus, and the child made one or two ineffectual attempts at inspiration. When delivery was completed, which occurred without any unusual delay, the child was pale and flaccid, but its heart was beating strongly, at the rate of about 60 a minute, and at intervals of a quarter of a minute or so it made a single strong inspiratory effort, in which the chest walls were sucked violently inwards, but no air entered the lungs. The usual means of resuscitation—slapping, sprinkling with cold water, artificial respiration, &c.—were used without result. I then made several attempts to pass a catheter into the larynx by the mouth, but failed, and last of all tried insufflation from mouth to mouth with pressure backwards on the trachea, without producing any good effect. By this time the child was cold, and evidently at the point of death. The inspiratory efforts, always ineffectual, still occurred, but so feebly and at such long intervals that each appeared likely to be the last, and the heart was scarcely to be felt beating. As it seemed that nothing was to be gained by simple persistence in the foregoing treatment, and as the symptoms pointed to some obstruction to the entrance of air into the lungs, tracheotomy was rapidly performed. There was no bleeding. A No. 7 male gum-elastic catheter was then passed into the trachea and air blown down it. During these insufflations it was found necessary to hold the child's mouth and nose, and also the edges of the wound, tightly round the catheter, to prevent air escaping at these openings; but in spite of all the nurse and I could do some air always did escape. Expiration was produced by pressure on the chest. As each of these acts caused a bubbling noise in the air passages, the action of the catheter was reversed, and about a drachm of mucus and meconium was sucked up into its tube and so got rid of. The spontaneous inspirations still continued at long intervals, but now of course drew air into the chest, and the heart's action soon began to improve. After this artificial respiration had been persevered in for about half an hour, each spontaneous deep respiration was followed by five or six rapid shallow ones, and in about an hour after its birth the child was breathing freely, moving its limbs, and crying when the wound was

closed. During the day it did well, taking some brandy-and-water, and breathing almost constantly through the mouth and nose. It was only in an occasional very deep respiration that the edges of the wound in the trachea were forced and a little air escaped. At 8 P.M. I put in three stitches, nearly closing the skin wound, and at the same time showed the nurse how to remove them if any dyspnœa should occur. At 1 A.M. (6th) the child coughed and struggled a little, and although the wound was opened the breathing became weaker, and ceased about half an hour later.

Permission was obtained for examination of the lungs and air-passages only. The lungs, trachea, and larynx were removed together. There was a little emphysema of the loose cellular tissue behind the œsophagus at the level of the larynx. The larynx was clear. The operation wound divided the crico-thyroid membrane, the cricoid cartilage, and the two upper rings of the trachea. The upper and middle lobes of the right lung were fully expanded, the lower lobe only partially. In the left lung a little patch at the apex and a strip along the free margin of the upper lobe alone contained air; the rest, including the whole lower lobe, was in its fœtal condition. On the posterior surface of both lower lobes there were a few subpleural ecchymoses. When the whole preparation was put into water the right lung floated, the left sank. On attempting to inflate the lungs with a Higginson's syringe, it was found impossible to do more than slightly expand the parts that already contained air till a small opening accidentally made in the left bronchus was closed, when they inflated readily and fully. The nozzle of the syringe just fitted the trachea.

I think the case encouraging because the atelectasis, which appears to have been the cause of death, is, I believe, to be accounted for by the imperfect apparatus I employed. A No. 7 catheter which does not fit the trachea, and therefore makes it necessary not only that the edges of the wound should be held tightly round it, but also that the mouth and nose should be kept closed against the escape of air, is not a good instrument for artificial respiration. The effect of such an escape was shown in the failure of the attempt to inflate the lungs post mortem until the opening in the bronchus was closed. During life I was never able to keep the mouth, nose, and wound air-tight, and therefore think that this escape of air during inflation was the main cause of the poor expansion of the lungs. In another case I should guard against it by using a nozzle that would plug into the trachea—e.g., that of a Higginson's syringe. This, with the adjacent piece of tubing, might be detached from the ball and inflation made by blowing down it.

Tufnell-park, N.

BILATERAL PARALYSIS OF THE DILATOR MUSCLES OF THE GLOTTIS, WITH SUBSEQUENT PARESIS OF THE CONSTRICTORS.

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SINCE the time when paralysis of the crico-arytenoidei postici muscles was first actually observed with the laryngoscope by Professor Gerhardt in 1863,[1] this condition has attracted much attention. Subsequently, cases were recorded by Morell Mackenzie, Riegel, Penzoldt, Semon, Rosenbach, Paul Koch, and others, and the list continues to swell steadily. Nevertheless, until recently the impression has prevailed that this form of laryngeal palsy is decidedly uncommon. Within the last few years a very different opinion has been expressed, and evidence is accumulating in favour of the view that the dilator muscles of the glottis, or abductors, are specially liable to paralysis.

It may be well here to give a short abstract of the work done on this subject in recent times, as most of the papers are only to be found in German periodicals.

Dr. Morell Mackenzie, in his work on "Diseases of the Throat and Nose," published in 1880, speaking of laryngeal affections due to disease of the brain, says: "The laryngeal symptoms vary greatly; in some cases the nucleus of one recurrent nerve is completely destroyed, and we have loss of power of all the muscles acting on one vocal cord, whilst in others the nuclei of the adductor or abductor filaments may be alone involved; hence sometimes there is merely hoarseness or loss of voice, whilst in others there is great stridor in breathing."[2] Again, we read, a few pages further on: "Experience has shown that the abductor filaments are more often pressed on than those going to the adductors. The reason of this is not at all obvious; it may be that the abductor filaments are more superficially situated than the adductors, or it may be that the adductors receive an increment of nerve force from the superior laryngeal nerve; the fact that the arytenoideus or central adductor certainly receives some filaments from this nerve supports the latter view. But whatever the cause may be, it is undoubtedly true that pressure on the recurrent nerve, if not complete, is more apt to affect the abductor than the adductor filaments."[3] The second quotation seems to show that Dr. Mackenzie had modified the opinion expressed previously.

Dr. Ottomar Rosenbach and Dr. Felix Semon made still more important contributions to the subject, and arrived at somewhat similar conclusions independently. The former writer drew an analogy between the abductors of the vocal cords and the abductor muscles of the body generally, and maintained that just as the abductors are more prone to undergo paralysis from nervous affections than the adductors or flexors, so the dilator muscles of the glottis are more liable to become palsied than the constrictors or adductors, when pressure is exerted on the recurrent laryngeal nerves. Rosenbach suggested that the movement of the vocal cord towards the middle line, which sometimes occurs in cases of bilateral abductor paralysis, on deep inspiration, is the result of a perverse or paradoxical innervation of the constrictor muscles, and is not due, as some have said, to atmospheric pressure. These views were founded on a case of carcinoma of the œsophagus, in which both recurrent nerves were involved, without any implication of the larynx itself. Bilateral abductor paralysis was followed by complete paralysis of both vocal cords.

Dr. Semon went still further, and argued for a specific vulnerability of the abductor nerve fibres, whatever the disease and wherever it might be situated, from the origin of the motor nerves of the larynx in the medulla oblongata down to their peripheral termination. According to this view, whether the disease be of a degenerative nature affecting the medulla oblongata—e.g., tabes dorsalis,—a new growth or aneurysm involving the nervous filaments in their course to the laryngeal muscles, the result is the same. In the early stages of interference with the motor nervous mechanism, the dilator muscles are the first to become paralysed. If the lesion be progressive, the adductor muscles subsequently become involved, and the final result is complete paralysis of the adductors as well as the dilators. This generalisation, based upon a considerable number of cases of central as well as peripheral disease, was first enunciated by Dr. Semon in a foot-note to his German translation of Dr. Mackenzie's work, published in June, 1880, though the remarks were written in 1879. It is true that Rosenbach brought forward his theory in November, 1879, but it was not till January, 1880,[4] that it appeared in print. It is unnecessary here to enter into the question of priority, which Rosenbach has argued recently[5] with some warmth, for his statements are sufficiently answered by a previous paper of Dr. Semon's.[6] There seems to be no reason to doubt that these authors had arrived at their conclusions quite independently. Objections have been taken to these views by Schnitzler, Solis-Cohen, and others, but the cases which have been adduced to support these objections are not free from considerable doubt, as will be seen from a perusal of Dr. Semon's paper last referred to. A far more serious attack on Rosenbach and Semon's doctrine was made by Dr. H. Krause of Berlin.[7] This author, on the strength of an experimental study of the results of irritation of the laryngeal nerves in animals, strove to show that most of the cases hitherto described as paralysis of the dilators of the glottis were really due to a primary neuropathic contracture of the constrictors or adductors. Krause's experiments may be divided into two

[1] Virchow's Archiv, Bd. xvii.: Studien und Beobacht. über Kehlkopflähmung.

[2] Vol. i., p. 426. [3] Ibid., p. 440.
[4] Breslau Aertzl. Zeitschrift.
[5] Virchow's Archiv, Bd. xcix., p. 190.
[6] Berlin. Klin. Wochenschrift, 1883, No. 46. Sep. Abdruck, S. 7, 8.
[7] Virchow's Archiv, Bd. xcviii., Heft 2, p. 294.

groups. In the first electrical stimulation was employed, whereas in the second class he subjected the nerves to a process of gentle but prolonged pressure. Electrical stimulation (*a*) of the peripheral end of one recurrent nerve was followed by closure of the glottis, the corresponding vocal cord coming over the middle line to meet its fellow, which remained motionless, although a slight simultaneous inward movement of its arytenoid cartilage could be observed. This last fact is explained by Krause in the light of Exner's researches, which show that not only is the inter-arytenoideus muscle supplied both by the superior and inferior laryngeal nerves, but that each lateral half of the muscle receives almost as many branches from the nerves on the opposite side as from those on the corresponding side of the body. Krause notes a curious fact at this point—viz., that closure of the glottis ceased on the occurrence of inspiration in spite of the persistence of electrical excitation. (*b*) Irritation of the central end of the superior laryngeal nerve, when its external branch remained intact, gave rise to firm closure of the glottis, and also to sphincter-like narrowing of the aditus laryngis. (*c*) Stimulation of the central end of the vagus was followed by a movement of abduction on the part of the opposite vocal cord.

In the next series of experiments the following method was employed. A catgut violin string, softened in water, was very carefully passed under the nerve on each side without damaging it, and was then tied in a loose loop. A small cork was then gently inserted into the loop so as to press slightly on the nerve. Soon after this operation, vibratory twitchings were noticed when attempts were made at adduction, although the excursions of the cords remained perfect, and the glottis continued to dilate freely and with regularity. Subsequently stridulous breathing developed, but soon passed off; and twenty-four hours after the operation the animal breathed quietly and normally. Notwithstanding this fact, a laryngoscopic examination now showed that the vocal cords were fixed firmly in the middle line, leaving only a minute fissure between their cartilaginous portions posteriorly, as is always the case during closure of the glottis in dogs, the animals operated upon. If, as sometimes happened, the cork slipped out of the loop, the vocal cords as a rule showed no impairment of their excursions in either direction, although the nerve already presented evidences of inflammation. When any restriction of the movement of the cords did occur, opening of the glottis was not more interfered with than closure. If the cork was again inserted, tonic contraction reappeared. The same results were obtained by compression of the peripheral ends of the divided recurrent nerves. Compression of the vagus trunk was followed by fixation of the corresponding cord in the position of quiet inspiration. The condition persisted, and the observations could be repeated for a period of from two to five days, after which time total paralysis of the vocal cords ensued.

At the post-mortem examination the nerves were found in various stages of inflammation. Many of the fibres of the crico-arytenoidei postici showed slight opacity and indistinct striation, whereas the adductor muscles were quite free from any change. During rigor mortis the glottis was seen to be closed, the vocal cords lying close together. Krause considers that the median position of the vocal cords was due to the slight irritation set up by the pressure of the cork, giving rise to a tonic contracture of the adductor muscles. He bases this opinion on several points—e.g., the persistent character of the affection of the glottis, the anatomical evidences of inflammation presented by the nerves, the development of the same affection when the experiment is conducted on the divided nerve, the identity of the effect produced whether electrical stimulation or pressure be employed, and the closed condition of the glottis during rigor mortis. The apparent limitation of the contracture to one group of muscles is explained by the preponderance of the adductors over the dilators, which he thinks is absolutely proved by the position of the glottis after death.

In the latter part of the article he maintains that the larynx is only required for phonation, and offers a hindrance to respiration which is only removed by the action of the crico-arytenoidei postici. This action represents a reflex tonus, the result of continuous stimulation of the vagi. The contraction of these muscles reaches its maximum during inspiration, but does not entirely cease during expiration, the difference in the degree of abduction accompanying expiration being due to the elasticity of the vocal cords. Krause is not satisfied with explaining the results of his own experiments in this way, but endeavours to show that the majority of cases of abductor paralysis recorded by various observers could be more easily explained on the hypothesis of a neuropathic contracture of the adductors.

In an excellent abstract[8] of Krause's paper, Professor B. Fraenkel makes some important criticisms on these views. He points out that a primary neuropathic, as distinguished from a paralytic contracture, is a very rare affection, and has not yet been experimentally produced. A contracture of this kind develops very slowly, whereas in Krause's experiments it is said to have been established within twenty-four hours. Moreover, it is impossible to follow Krause when he attributes the degenerative changes in the postici muscles to the contracture of their antagonists, the adductors, considering that the post-mortem examinations were made at the latest within five days after the operation. The whole argument turns on the preponderance of the adductors, which Krause assumes. The position of the glottis described as constant during rigor mortis, should it be confirmed, is not decisive as to this point. We are told that the closure of the glottis, which results from electrical stimulation of the recurrent nerve, ceases on the occurrence of inspiration, although the stimulation is maintained. How is this to be explained if we assume that even during forcible inspiration the adductors are still predominant?

If, on the other hand, it be granted that during forcible inspiration the preponderance of the adductors is arrested, it is difficult to understand how apposition of the vocal cords can be the result of a contracture. The hypothesis of a contracture merely adds to the mystery of the question. Now, the condition in man recognised as abductor paralysis is no contracture, the vocal cords are lax, not tense, and on phonation they can be seen to be put on the stretch. When phonation ceases they relax in virtue of their elasticity and diverge slightly, but the muscular contraction of the postici required to produce external rotation of the arytenoid cartilages is wanting, and consequently the glottis remains a mere chink. Again, the fact that this affection occurs whether pressure be exerted on the recurrent laryngeal or on the trunk of the vagus, shows that it is unsafe to draw conclusions from Krause's experiments on animals. Lastly, Professor Fraenkel quotes some experiments made by Zederbaum[9] on the results of pressure on nerves, which prove that the application of the clamp is at once followed by loss of reflex excitability of the nerve, though the motor irritability remains. On removing the clamp, the reflex excitability is completely restored. These experiments suggest a clue to the solution of the present difficulty; for if we regard the peculiar stimulus on which the tonus of the crico-arytenoidei postici depends as equivalent to reflex irritability, the immediate effect of pressure on the motor laryngeal nerves would be loss of reflex irritability of the postici, the motor excitability of the vocal cords in other respects being still preserved.

Seifert[10] records three instances of laryngeal paralysis occurring in patients with other signs of lead poisoning, which he attributes to the influence of lead. In one there was paresis of the arytenoideus proprius, in another complete paralysis of one recurrent nerve, and in the third the vocal cords were in the median position, and there was œdematous swelling over the arytenoid cartilages. In the last case he had an opportunity of a post-mortem examination, and found the postici muscles greatly atrophied. No information is given of the condition of the crico-arytenoid articulation. Seifert considers that these cases show that different laryngeal muscles may be picked out by the poison, in opposition to the views expressed by Semon.

An attempt was made by Simanowski[11] to elucidate the question by a careful microscopical comparison of the nerve terminations of the dilator and constrictor muscles of the glottis with those of the red and pale muscles of the extremities in the sense in which a distinction has been drawn by Ranvier and Krause. Simanowski found that the abductors correspond with the red muscles, and the adductors or constrictors with the pale muscles of Krause. The subdivisions of the nerves are shorter, thicker, and more numerous in the pale muscles, longer and more delicate in the red muscles. The motor end plates are very numerous in the former, but scanty in the latter.

[8] Internat. Centralblatt f. Laryngologie, Oct. 1885.
[9] Archiv f. Physiologie, 1883.
[10] Internat. Centralblatt f. Lar., April, 1885 (Abstract).
[11] Ibid., Feb. 1886 (Abstract).

In a dissertation published at Leyden,[12] Dr. G. D. Cohen Tervaert raises objections to Krause's views, believing that pressure on motor nerves nearly always causes paralysis, not spasm. He finds as the result of the examination of a large number of dead bodies at the hospital in Leyden that Krause's statements as to the position of the glottis post mortem are incorrect, the glottis being open at its posterior end in every case. He mentions a fact pointed out by Professor MacGillavray, that it is necessary to puncture the trachea or divide it before the thorax is opened, as otherwise the collapse of the lungs forces air through the glottis, and may interfere with the observation. This writer accepts the idea of a paralysis of the abductors, but considers that Semon's explanation is insufficient, considering that no unequivocal case has yet been recorded of paralysis of the postici passing into complete paralysis of the recurrent laryngeal nerve. Attention is directed to the fact that the postici are the only dilators of the glottis as compared with the greater number of muscles that close the glottis. The apparent proclivity of the dilators to disease is to be explained in the light of Exner's observations, which prove that whereas many of the muscles of the larynx are supplied by both superior and inferior laryngeal nerves, the postici are almost entirely innervated by the recurrent branch, and are therefore more liable to suffer when this nerve is diseased than the adductors.

Krause's views were also subjected to a severe criticism by Rosenbach,[13] but the arguments adduced by him are much the same as those of Fraenkel.

At the meeting of the Laryngological Section of the Association of German Naturalists and Medical Men, held at Berlin in September, 1886,[14] the question was reopened by Dr. Semon. In the discussion that followed Krause reasserted his position. Remak maintained that the dispute could only be settled by clinical and pathological experience, not by experiments on animals. A persistent primary contraction of the adductors was only conceivable on the hypothesis of a reflex origin. Moreover, irritation of purely motor nerves gave rise to clonic spasms, not to tonic contracture. Meschede referred to a case of bilateral abductor paralysis he had cured by injections of strychnia, which could hardly be explained on the contracture theory. Dr. Semon, in his reply, pointed out that the idea of a reflex contracture could not be entertained in Krause's experiments, for the same median position of the vocal cords was obtained whether the cork was fastened to the peripheral end of the recurrent nerve or to the undivided nerve. If the fact should be established that a primary neuropathic contracture could be produced under similar conditions in the case of other nerves, he would be convinced, not otherwise. Several other cases have been recorded recently[15] which bear on this point, but I have only mentioned some of the most important contributions to the subject, as it would exceed the scope of the present communication to quote and discuss all the papers lately published.

(To be concluded.)

REMARKS ON THE

ACCIDENTS WHICH NOT INFREQUENTLY OCCUR TO PARTURIENT WOMEN.

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ASSISTANT OBSTETRIC PHYSICIAN AND LECTURER AT THE MIDDLESEX HOSPITAL.

(Concluded from page 65.)

3. *Laceration of the perineum* is, as Dr. Fordyce Barker says,[1] "an accident of parturition, which has occurred in the practice of the best obstetricians, and cannot always be prevented; but I believe that a thorough appreciation of the conditions under which it is liable to happen, and a judicious and timely use of means appropriate to each special condition to avert the danger, will render the accident a very rare one." Dr. Barker gives the following conditions as likely to produce it:—(*a*) A very straight sacrum; (*b*) a vulvar orifice more or less at right angles to the pelvic outlet; (*c*) an unyielding perineum; (*d*) extreme smallness of vulva; (*e*) a large fœtal head; (*f*) occipito-posterior and face presentations; (*g*) incomplete flexion; (*h*) very rapid or very tedious labours; (*i*) excessive irritability of patient; and (*j*) unskilful or instrumental interference. When once a laceration has begun, its extent depends, *pari passu*, on the rapidity with which the head and shoulders are delivered, being greater the quicker delivery is effected. Perineal laceration may be followed by hæmorrhage or septic poisoning; and, later on, owing to the partial destruction of the pelvic floor, rectocele and cystocele may occur, and these, in their turn, be followed by uterine prolapse, or other displacements of the pelvic viscera, with their accompanying evils. Now, what may we consider to be the best means of preventing perineal laceration? For my own part I have no faith in supporting the perineum, as I fail to see how it can be of use. Believing, as I do, that the majority of ruptures are due either to a too forcible and rapid expulsion of the head, or to a premature extension taking place before the nape of the neck is well under the symphysis pubis, so that the occipito-frontal, instead of the shorter sub-occipito bregmatic diameter, passes through the vulvar outlet, my mode of treatment is as follows:—When the head has come down on to the perineum, having well lubricated this structure with carbolised vaseline, I endeavour to regulate the rate at which the head distends it, and to maintain flexion by placing the fingers of the left hand towards the bregma, and those of the right on the occiput, and in this way am able, I think, to frequently stave off a rupture; if, however, notwithstanding this procedure, laceration seems impending, I make lateral incisions in the outlet, and, in not a single instance, in which I performed this simple operation of episiotomy, has the perineum itself given way, nor has there been any trouble subsequently from the incisions, which unite perfectly after the insertion of one or two catgut sutures. Since advocating this method, in a paper published in THE LANCET in 1884, I have only had occasion to incise the perineum laterally five times, but in each case with a successful result. However, since reading a paper by Credé on "Single Lateral Incisions for Perineal Ruptures,"[2] I am bound to admit that, in all probability, the double incision is unnecessary. (A good abstract of this paper appears in the Year-book of Treatment for 1885, from the pen of Dr. Champneys.) Credé thus describes the method in which the operation is performed at Leipzig. "One blade of a pair of strong straight scissors is inserted flatwise, between the vulva and head, about an inch from the fourchette; then, when the acme of the pain has passed, a cut is made outwards towards the tuber ischii (half to one inch long), and either through the skin, or through skin and muscle. It is important not to cut at the height of a pain, otherwise, owing to the rapid advance of the head, extensive laceration may take place; whereas, if performed as the pain is passing off, we can better regulate the extent of the incision, and the suffering is less than when the pain has quite passed away." Credé advises that the incisions be closed with silk. From an analysis of 2000 cases he gives the following table:—

I. PRIMIPARÆ (997).		
Lateral incisions	259=25·9	per cent.
Spontaneous ruptures	104=10·4	„
Rupture in spite of incisions ...	29= 2·9	„
Perineal injuries ...	392=39·2	„
II. MULTIPARÆ (1003).		
Lateral incisions...	12=1·2	per cent.
Spontaneous ruptures	24=2·4	„
Rupture in spite of incisions ...	0= 0	„
Perineal injuries ...	36=3·6	„
III. PRIMIPARÆ AND MULTIPARÆ (2000).		
Lateral incisions...	271=13·5	per cent.
Spontaneous ruptures	128= 6·4	„
Rupture in spite of incisions ...	29= 1·4	„
Perineal injuries ...	428=21·3	„

He sums up as follows: "Very rarely, and only in very unfavourable and exceptional cases, does laceration follow

[12] Internat. Centralblatt f. Lar., Sept. 1886 (Abstract).
[13] Virchow's Archiv, Bd. xcix.
[14] Internat. Centralblatt f. Lar. (Abstract), Jan. 1887.
[15] Internat. Centralblatt f. Lar., Aug. 1884, April, July, Nov. 1885, Feb. 1886, Jan., Feb., and April, 1887.
[1] The Puerperal Diseases, 4th edition, p. 40.
[2] Archiv für Gynäkol., Band xxiv., S. 148.

incision; the oftener incision is practised the rarer are lacerations; complete ruptures are abolished; the lying-in is far more favourable after incision than after laceration. Incision prejudices recovery inappreciably or not at all; the vulva is not really damaged. Incision does not favour infection; the pain is trivial, and pain is saved by shortening the most painful stage of labour; by relieving pressure it helps to avoid sloughing."

In the event, however, of laceration taking place, I maintain that it is our bounden duty to bring the lacerated surfaces together by means of deep sutures, even though the tear be slight, and *a fortiori* when it is extensive, in order not only to lessen the risk of septic absorption, but to obviate ill effects, which may necessitate a secondary perineoraphy later on. My mode of procedure is the following: The patient lying on her left side with the legs well flexed; the nurse with one hand on the abdomen aids uterine contraction, and with the other raises the right knee well away from the left. A piece of sponge the size of an orange, and wrung out of an antiseptic solution, is passed into the vagina, in order to prevent blood trickling down and obscuring the rent; then the left forefinger is inserted into the rectum, and *the posterior vaginal wall pulled forward* so as to expose the whole extent of the laceration. This is now cleansed of all clots and sponged over with an antiseptic solution; then two or three sutures (I prefer wire, but silk or silkworm gut will do) are passed deeply, with a well-curved needle set in a handle, so as to include all the laceration; the two sutures nearest the anus are now twisted, then the sponge withdrawn from the vagina and the remaining suture rapidly secured. The sutures are left in for a week, the vagina kept free from discharge, in the manner to be mentioned presently. The bowels are kept quiet for five days, if the laceration be extensive, and especially if it involve the anal sphincter; but if it be slight, or there be any special indication for doing so, a mild dose of castor oil or other aperient may be given on the second day. Chloroform as a rule is unnecessary, unless the patient be very nervous; if administered at all, it must be given to the surgical degree. I would add that it is far more important for a practitioner to carry to every midwifery case some needles with wire or silk than a bottle of ergot.

4. *Post-partum hæmorrhage.*—Although this is a not uncommon accident of childbirth, it is in the fullest sense a preventable one, and only occurs frequently under one condition—namely, when the third stage of labour has been mismanaged. I cannot do better than quote Playfair's words on the subject.[3] "I believe that if this lesson were driven into the mind of the practitioner that every case [of midwifery] is to be treated as if hæmorrhage were about to occur, then it would be of the rarest possible occurrence. If I hear of a man who is always having hæmorrhage amongst his patients, I feel myself justified in concluding that that man either does not know or does not practise the proper management of the final stage of labour." My own experience leads me to endorse these words, for although the fact that, in an attendance upon just a thousand labours, not a single case of flooding occurred may be due to good fortune, I am disposed to attribute it to one's routine method of conducting each case. "When the child is about to be born, I get the nurse to spread both her hands over the uterus, to follow it up as it is being emptied, and to maintain firm pressure without intermission for a single instant after delivery until I relieve her; this I do after having separated the child, placed it comfortably aside, and washed my hands. I then slip my hands under those of the nurse, and, grasping the uterus (which almost invariably feels well contracted), I gently knead it, making pressure downwards and backwards towards the sacrum; the placenta is expelled usually in a few minutes by the *vis à tergo;* and under no circumstances whatever is the slightest traction made on the cord." This method, it will be seen, is not very different from that advocated during the last few years by Credé[4] and which has become so widely adopted. He says: "It is chiefly important to utilise exactly the proper point of time for pressure with the hand. The hand should be softly laid upon the uterine region; at first very gentle stroking movements over the largest possible surface of the uterus are made until a contraction is felt under the hand; next, grasping with the outspread fingers and hand (or where one hand is insufficient with both hands) the uterus, and, at the moment when contraction seems to have reached its greatest energy, press boldly upon the fundus and walls of the uterus in the direction of the hollow of the sacrum. To press upon the uterus during the absence of a contraction, in order to remove the placenta, is entirely wrong, and does not fulfil its object." Credé also says that the most advantageous, and at the same time perfectly harmless, period for the expression is the third or fourth contraction, which occurs about five minutes after birth; and he asserts that if after the lapse of half an hour the placenta has not been delivered, he regards the case as pathological and demanding manual intra-genital aid.

With regard to the curative treatment of post-partum hæmorrhage, I shall only remark that emptying the uterus of all clots, followed by the injection of hot water into its cavity, and of ergotine into the gluteus muscle, will prove sufficient for most cases, and that, considering the dangers attending the use of perchloride of iron injection, this should only be had recourse to in the most desperate cases; and, lastly, the frequent subcutaneous injection of ether will sometimes obviate the necessity for transfusion.

Such are the few remarks I have ventured to bring forward on some of the accidents to which parturient women are liable; but seeing that almost all the cases of septic poisoning occurring in puerperal women, and resulting in either pelvic cellulitis, pelvic peritonitis, or puerperal fever, are due to infection from without (hetero-infection), and few, if any, to auto-infection, I cannot refrain from laying stress, before concluding this paper, on the immense importance of the systematic adoption of strict antiseptic measures in the conduct of every midwifery case, not only on the part of the practitioner, who, as a rule, only touches the genitals during parturition, but more particularly on the part of the nurse. Assuming, then, that the sanitary arrangements, both of the lying-in chamber and of the house in which it is situated, are perfectly sound, I venture to suggest that every obstetric case should be conducted somewhat as follows:—The medical attendant, before visiting his patient, ought to feel confident that he does not carry in his clothes the means of infection. Before making a vaginal examination the hands should be thoroughly washed with carbolic soap-and-water, using always a nailbrush, and then the forefinger smeared with some antiseptic. (I always use a 1 in 500 solution of corrosive sublimate in glycerine.) The vagina is to be washed out before the birth of the child with a warm solution of either 1 in 40 carbolic acid, or 1 in 2000 sublimate.[5] For the five days following delivery the vagina is to be washed out night and morning with a 1 in 2000 sublimate solution, and from then until the lochia have ceased with a solution of half the strength. Any perineal laceration should be sutured, and in any case where it has been necessary either to apply the long forceps or to insert the hand into the uterine cavity, this latter should be washed out by means of a double pipe,[6] and then a 30-grain iodoform bougie passed well into the uterus. The nurse should take precisely the same precautions as the practitioner with regard to her hands before attending to her patient. She should be careful to remove all soiled linen from the room, and to keep the catheter and the vaginal pipe immersed in a basinful of 1 in 40 carbolic or 1 in 2000 sublimate solution. If every woman's lying-in were to be conducted on the lines above indicated, it seems to me we should very rarely meet with that fearful malady, puerperal fever.

[3] Trans. Internat. Med. Congress, 1881, vol. iv., p. 357.
[4] Archiv für Gynäkologie, 1881, p. 264.

[5] Messrs. Calvert of Manchester have made an elegant 20 per cent. carbolic soap, with case for carrying in the waistcoat-pocket; and also a granulated phenol, which is readily soluble in warm water without any deposit. Professor Helferich has invented sublimate tampons, the contents of each one of which dissolved in two pints of water make a 1 in 1000 solution.

[6] Messrs. Down Bros. of St. Thomas's-street, S.E., have made a very good one for me.

DONATIONS.—Baron de Hirsch, in memory of his son, Lucien de Hirsch, who had a large racing establishment at Newmarket, has in consequence of the breaking-up of that establishment devoted the proceeds, amounting to £12,000, to public charities, amongst which are the following:—Metropolitan Provident Medical Association, £3000; London Hospital, £1000; Rous Memorial Hospital at Newmarket, £1000; Children's Hospital, Great Ormond-street, £500; and North-Western Hospital, £500.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ORIGIN OF TUMOURS BY REVERSION.

BY HARRY CAMPBELL, M.D., B.S. LOND., M.R.C.P.,
ASSISTANT-PHYSICIAN AND PATHOLOGIST TO THE NORTH-WEST LONDON HOSPITAL.

THE interesting communication of Dr. Gresswell on the above subject has suggested the following brief remarks.

I have been inclined for some little time past to regard certain new formations as reversions—of limited patches of tissue—to an ancestral type, notably the enchondromata, myxomata, sarcomata, and the new formation occurring in consequence of inflammation—namely, granulation tissue—including, of course, the granulomata. It must not be forgotten that the reversion of which Dr. Gresswell speaks is not the ordinary reversion which occurs during the embryological development of an organism, but the reversion of a fully evolved and specialised tissue to one of remote ancestral type. That such a fully-developed tissue may thus revert is a well-recognised fact. Dr. Maudesley points out that during the cerebral disturbance which heralds an attack of insanity, the moral faculty—namely, that mental element which has been last acquired, is generally the first to go. This shows a reversion of cerebral tissue to an ancestral type. It is well to bear in mind that the tissues of a fully-developed organism have many potentialities which only need fitting opportunities to display themselves. These consist in modifications of cell environment. A good example of such latent capacities is afforded by disease, atrophy, or removal of the ovaries or testicles, when the organism tends to take on the characters of the opposite sex. This shows that each sex contains potentially the actualities of the other, and similarly the most highly specialised organism contains the potentialities of remote ancestral actualities which display themselves under modifications of cell environment.

As regards tumours, the nature of this environment is known in certain instances, as in the granulomata; parasites enter the tissues, and so disturb the cell environment that they can no longer maintain their high grade of specialisation and revert in consequence to an ancestral type. The malignant tumours have, I believe, a like parasitic origin; but there is no need here to adduce arguments in favour of this view. Now, sarcomatous tissue is distinctly of an ancestral type; one cannot, however, speak so positively of the carcinomatous. In epithelioma, however, we see changes allied to embryological ones. The squamous epitheliomata originate by an involution of the epithelium, such as occurs in the development of all open glands (even the liver is thus developed); but in this instance the inverted cylinders have no lumen, nevertheless the manner of development is that of a crude form of gland. In the cylindrical variety we have a higher effort, for a distinct lumen is developed. I cannot compare the other carcinomata to any embryological or ancestral tissue through dearth of knowledge; but let us bear in mind that the affected tissues must possess the potentiality of this mode of growth, and whence, it may be asked, have they this power? I should not be surprised if one of wide histological knowledge could throw light upon the subject on the lines laid down by Dr. Gresswell.

Guilford-street, W.C.

SUPRA-PUBIC LITHOTOMY.

BY CHARLES WILLIAMS, F.R.C.S. ED.,
SURGEON TO THE NORFOLK AND NORWICH HOSPITAL.

GEORGE J——, a farm labourer, aged eighteen, was admitted into the above institution in May, 1886. He had suffered from constant irritability of the bladder from the age of two or three years, and from well-marked symptoms of stone for twelve months. Of late the vesical pain had been excessive, and had greatly impaired his health. He was thin and worn, stooped much, and was noticed to have his left hand constantly in his trousers pocket, grasping his penis—a sure sign of stone in the bladder. There was no indication of kidney impairment. The lithotrite gave evidence of a rough stone of about an inch and a half in diameter.

June 25th.—Hypogastric lithotomy was performed, the bladder having been injected with six ounces of boracic acid solution through a No. 9 silver catheter, known as Brodie's, which was retained and held by my colleague, Mr. Crosse. This proceeding rendered the rectal bag unnecessary, and proved to be a sure and safe guide to the viscus, which I was enabled to open without difficulty. The stone was extracted without trouble, and a medium-sized rubber tube placed in the lower portion of the wound. The vesical incision was brought together by means of several catgut sutures, and the abdominal wound closed by six carbolised silk sutures. The patient was placed on his side in bed, and with a small basin was enabled to catch the urine as it ran through the drainage tube.

Two days later redness and tension were noticed around the wound; some sutures were removed and a teaspoonful of pus escaped. On the fourth day the tube was removed, and on the fifth the urine passed per urethram.

On July 31st the patient left the hospital in excellent health, the wound soundly healed. The stone weighed 509 grains, and consisted of uric acid.

Norwich.

NOTE ON THE ADMINISTRATION OF OPIUM.

BY A. G. AULD, M.D.

THERE are few drugs more commonly prescribed than opium, and it is certain there is none more abused or more carelessly combined. Of its numerous official preparations it cannot be said that their individual actions are free from the disagreeable after-effects which characterise that of the pure drug. The problem is to get all the good effects of the drug, and yet to obviate the resulting headache, sickness, and loss of appetite caused by arrestment of the secretions of the alimentary canal. This, of course, refers to medium doses. Belladonna or atropia have for long been given in combination with opium, but in these respects the result has been mostly a failure, the reason being that while the actions of these drugs on the central nervous system are to a certain extent antagonistic, their actions on the alimentary secretions are much the same. For some time I have given opium in combination with ether with good results, ether being one of the most powerful secretion stimulants we know. I generally prescribe equal quantities of tincture of opium and spirit of ether, and though not claiming for this a specific effect, think it a good and most useful mixture.

Wick, N.B.

SEVERE CASE OF ACUTE GLOSSITIS.

BY BERNARD RELTON, M.R.C.S., L.S.A.

AT 1.30 A.M. on May 29th I was called up to go immediately to see a man, a painter by trade, aged about thirty, whose "tongue was so swollen that he was being suffocated." On interrogating the messenger, I learnt that the patient had had a heavy supper of oysters, cucumber, onions, and whisky at 11 that evening, and shortly afterwards his tongue and neck began to swell rapidly, and that he was now almost choked. I went to the man immediately, and found him sitting up in bed with his mouth wide open, and protruding from it a red mass which completely filled up the aperture of the mouth, while the unfortunate man was gasping for breath and appeared almost moribund. Seeing the danger he was in, I determined to make free incisions into the tongue; but on pulling down the lower lip I found the floor of the mouth so very swollen and œdematous, and the immensely swollen tongue pushed up so high, that I freely punctured with a "Paget" knife the swollen tissues beneath the tongue, from which a considerable quantity of serum rapidly oozed out. I was now able to get the handle of a spoon on the dorsum of the tongue, and pressed it down hard, so as to give him a better chance of breathing, and this made him very sick. The vomited matter, more than a pint in quantity, consisted of improperly digested food, and smelt strongly of onions. He now began to breathe much better and in the course of ten minutes, or even less, he was able to move his tongue, which before was

quite impossible, and soon after he was able to close his mouth. The submaxillary glands, which on my arrival were greatly swollen on the right side, and looked like a huge submaxillary new growth, now began to subside, and half an hour after entering the house I left, leaving the man out of danger, although still breathing with difficulty. I called again about 9 A.M., and found the patient sitting up in bed. On asking him how he felt, he replied, "I am quite well now; it was those oysters poisoned me." On asking him how he could tell, he told me that when he swallowed them they had a nasty coppery taste, which he noticed again directly the vomiting came on.

When I was at St. Thomas's Hospital I saw two cases of acute glossitis, but in neither of them were the symptoms to be compared in severity with the above. I may add that, besides the puncturing, I applied hot water fomentations to the neck, and inhalation of steam after the vomiting, but I do not consider they had anything to do with the successful issue of the case.

Rugby.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

SCIRRHUS OF THE PANCREAS, CAUSING INTESTINAL OBSTRUCTION; COLOTOMY; DEATH; NECROPSY.

(Under the care of Mr. MARCUS BECK.)

THIS case is unusual in many respects; it is not common to find scirrhus affecting the pancreas as a primary growth. When malignant disease affects that organ it is mostly as an extension from a neighbouring part, such as the stomach. Here there can hardly be a doubt, from the careful examination made after death, that the disease commenced in the pancreas, and produced the symptoms of intestinal obstruction by extension to the colon. It is well known that malignant stricture of the bowel is by far most common below the descending colon (Brinton, 60 per cent.), and therefore the indication where the position of the stricture is doubtful, is either to perform colotomy, as in this instance, on the left side, proceeding after failure to a similar operation on the right side, or to perform abdominal section, and after the discovery of the seat of obstruction, proceed to the opening of the bowel above the position of the disease, in the most convenient situation. The course adopted will vary in different cases, and in the practice of different surgeons, but where the seat of obstruction is probably in the large intestine, most would proceed in the manner adopted with success by Mr. Beck. For the following notes we are indebted to Mr. W. B. Ransom, dresser to the case.

James B——, a cabdriver, aged fifty-seven, was admitted into University College Hospital at 2 P.M. on June 11th, 1887, with a history of complete intestinal obstruction since June 1st. On the 30th of the previous month he felt some discomfort in the abdomen, and lost his appetite. The next day (May 31st) he passed two small hard lumps of fæces, but nothing since that date in spite of the repeated administration of jalap, castor oil, and enemata. On June 1st he vomited some white slimy matter, but that was the only occurrence of sickness. The next day he was seized with violent cramp pains all over the abdomen, which on the evening of that day became much swollen. The pains continued up to the time of admission into the hospital. During the eleven days of obstruction he was fed on gruel and milk.

On admission the patient lay in a prostrate condition, and complained of severe pains shooting all over the abdomen. The abdominal walls were considerably and uniformly distended, and were tympanitic both in front and in the flanks. No intestinal movements could be seen, but some rumbling was felt. No special tumour could be detected by the touch, and nothing was discovered in the rectum. The pulse was full and strong, and no cardiac bruit was heard. The patient had slight scalding pain during micturition. The urine was high-coloured, acid, sp. gr. 1040, free from sugar and albumen, but contained an excess of uric acid. The previous history gave no evidence of syphilis, typhoid fever, or dysentery. There was an obscure history of an acute attack of abdominal pain, vomiting, and intestinal obstruction in 1856, when the patient was a soldier in the Crimea. For the last three years he has been habitually costive, the bowels being only opened by the use of jalap. There was no family history of cancer.

From the history of the attack and the distension of the flanks, it was thought that the seat of the obstruction was in the large intestine, probably in the sigmoid flexure, and accordingly two hours after admission Mr. Beck performed left lumbar colotomy. But when the descending colon was opened neither gas nor fæces escaped through the incision, although the abdominal tension caused the gut to protrude through the wound. The finger inserted into the colon could not reach the seat of obstruction. The wound was therefore stitched up, covered with iodoform wool, and the patient turned over and the ascending colon opened. From this incision a large quantity of gas and liquid fæces immediately issued, and when the patient was returned to bed he at once expressed his sense of relief.

On the next day, June 12th, a free discharge of liquid fæces continued from the right colotomy wound, and the patient felt comfortable. Temperature at 11 A.M., 99·4°. The wound on the left side was found to be fairly clean, and was covered up with iodoform wool and collodion. During the next two days, however (13th and 14th), this wound became foul, and showed a brownish discharge of fæcal appearance and smell. The sutures became loose, and the wound gaped widely by the 16th. Temperature at 11 A.M. on the 14th, 101·8°. This discharge from the descending colon ceased to be fæcal by the 18th, but a considerable quantity of white mucus continued to escape. The abdominal distension and tenderness became by this time very slight, and the appetite returned. The fæces continued to escape from the right colotomy wound, but became more solid. Improvement continued up till the 21st, and the patient slept well, and was able to eat meat. During these days there was no great rise of temperature—e.g., on June 20th, at 11 A.M., the temperature was 99·4°; at 7 P.M., 100·4°; but after the 21st it was never below 100°. The abdominal pains returned, and the patient, though apparently drowsy by day, hardly slept at all during the night. On the night of the 26th he vomited three or four times, bringing up food and bile-stained fluid. He was also at times somewhat delirious. On the 27th, at 11 A.M., the temperature was 103°, and the vomiting was twice repeated. After having some brandy he seemed easier, and at night slept better, being only sick once. Temperature at 11 P.M., 102·6°. On the morning of the 28th he seemed better, got shaved, and smoked two pipes between 7 and 8 A.M., but before 9 A.M. he died. Temperature at 5 A.M., 101·2°.

The suddenness of the death, when the patient was fairly comfortable, and to all appearance distinctly better, was a remarkable occurrence, which the necropsy failed to explain, while the changes observed post mortem rendered further remarkable the slight amount of discomfort experienced by the patient since the operation.

Necropsy, twenty-six hours after death.—The intestines were found to be matted together by a thin layer of yellow lymph, and to be in many places adherent to the abdominal walls. One large and several small perforations were seen in the small and large intestine, but all were closed by adhesions. The peritoneal cavity contained neither fluid nor fæces, and there was no special inflammation round the colotomy wounds. The sigmoid flexure and descending colon on being opened proved to be empty and free from tumour or stricture; but at the splenic flexure the colon was much constricted, and the mucous membrane puckered into numerous folds. Otherwise the interior of the colon at this spot presented no abnormality, but on section through the puckered region the muscular coat of the colon was found to be continuous with a hard, dense, white mass, which bound it down to and extended into the tail of the pancreas, the spleen, and the left kidney. To the naked eye the growth appeared to extend into the pancreas for about an inch, but only into the capsules of the kidney and spleen.

Microscopical examination of the growth showed it to be a scirrhous cancer affecting chiefly the last inch of the tail of

the pancreas. Normal pancreatic gland tissue was found in its immediate vicinity. The capsule of the spleen and a thin layer of the splenic pulp were completely destroyed at the place of contact with the growth, the stroma of which contained broken-down blood pigment (hæmatoidin?) in the region which had invaded the spleen. A portion of the cortex of the kidney was destroyed, and in the zone in front of the growth there was great infiltration of leucocytes and signs of degeneration of glomeruli and tubules. The invasion of the colon by the cancer cells was mostly limited to the muscular coats, but here and there the submucous coat was penetrated, and at these points the mucous membrane was so infiltrated with leucocytes as to appear on the point of ulcerating into the lumen of the gut. But at no point was there any proliferation of the epithelial cells of the colon, while the cells of the tumour throughout showed the typical arrangement of scirrhous cancer, and in the substance of the pancreas were continuous with masses of normal gland cells, with which they were almost identical in appearance. There was thus no room for doubt that the growth originated as a carcinoma of the pancreas.

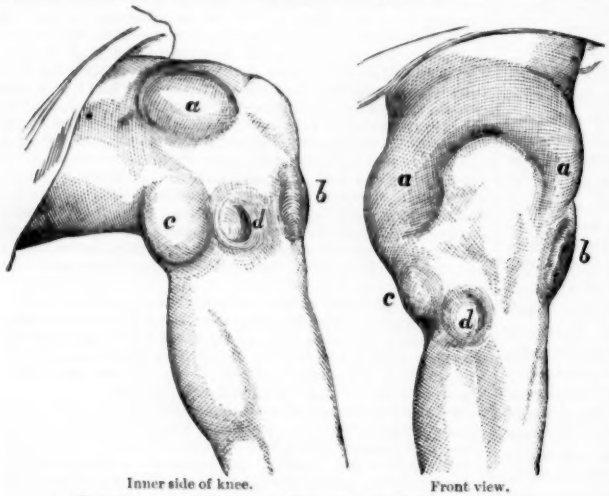
LEEDS GENERAL INFIRMARY.

MULTIPLE ABNORMAL SYNOVIAL CYSTS AROUND THE KNEE.

(Under the care of Mr. A. W. MAYO ROBSON.)

THE following case was reported and the drawings made by Mr. W. B. Russell, B.A.

J. P——, aged fifty-three, was admitted on March 23rd, 1886, complaining of pain and stiffness of the left knee. The patient, an out-door labourer, exposed to cold and wet, had for eight years suffered from rheumatic pains in both knees. About eight months before admission, without apparent cause, a swelling formed about his left knee, accompanied by considerable pain and lameness; the leg also became swollen as far as the ankle. He was treated as an out-patient by means of Scott's dressing and elastic bandage, which relieved him, but there had been swelling around the knee ever since, and lately the pain and lameness had increased.



Inner side of knee. Front view.

a. B. under vasti. *b*. B. under biceps. *c*. B. under semi-membranosus. *d*. B. under sartorius.

On admission there was much swelling around the left knee, which was flexed to an angle of 150°, and could not be extended without pain. The swelling was markedly fluctuating in four distinct parts. (See diagrams.) 1. Above and on each side of the patella, extending under the vasti, was a large fluctuating sac, which did not cause a bulging below the patella when pressed on. 2. Above the head of the fibula, in connexion with the biceps tendon, was an oval, well-defined swelling the size of a pigeon's egg, fluctuating and tender on pressure. 3. On the inner side over the semi-membranosus was an elongated thick-walled fluctuating sac, which was rather smaller than *b*. 4. In front of *c*, and extending a little lower and more forward, was a sac less tense than the others, and evidently communicating by means of a small opening with *c*, for the fluid could be pressed back so as to make the sac *c* more tense. The internal saphena vein was somewhat varicose, especially above the knee. The knee jerk could be tried with difficulty owing to the swelling, but when obtained the leg remained extended for a few seconds. The other reflexes were normal. He could stand with his eyes closed. The patient was well in every other respect, and got on so comfortably with a Thomas's splint that he would not have any active treatment, and was at his own request made an out-patient.

Remarks by Mr. MAYO ROBSON.—That the case above recorded is an unusual one is proved by the fact that several of my colleagues had not seen a similar one. In the thirteenth volume of the St. Bartholomew's Hospital reports is a paper by Mr. Morrant Baker on several cases of a like nature, in which he comes to the following conclusions:—"1. That in cases of effusion into the knee joint, and especially in those in which the primary disease is osteo-arthritis, the fluid secreted may find its way out of the joint, and form by distension of neighbouring parts a synovial cyst of large or small size. 2. That the synovial cyst so produced may occupy (*a*) the popliteal space and upper part of the calf of the leg, or may (*b*) be evident in the calf of the leg only, projecting most, as a rule, on the inner aspect of the leg as a small defined swelling, not approaching within three or four inches of any part of the knee joint. 3. That however large the synovial cyst may be, fluctuation may not be communicable from it to the interior of the knee joint; but the absence of such fluctuation must not be taken to contraindicate the existence of a connexion between the joint and the cyst. 4. That the synovial cyst may be expected to disappear after a longer or shorter period without leaving traces of its existence, even on dissection of the limb. 5. That the cyst should not be punctured or otherwise subjected to operation, unless there appear strong reasons for so doing, inasmuch as interference may lead to acute inflammation and suppuration of the knee joint. 6. That most often the disease in the knee joint will be found to have begun some time before the appearance of the secondary synovial cyst; but sometimes the patient's attention may be first drawn to the latter, or the cyst may seem for a long period the more important part of the disease." With such recorded experience I felt that there were only two courses open to me in treating a patient over fifty, these being amputation or palliative means; and as the latter answered so well, the patient took the responsibility into his own hands, and elected to be relieved with his limb on. I have seen abnormal synovial cysts in close and intimate connexion with other joints—e.g., ankle, wrist, shoulder, and in one case with the back of the hip joint, but in no example have I found them so extensive or producing so much deformity and lameness as in the case related, which, though differing in several points from Mr. Morrant Baker's recorded cases, is evidently essentially of the same nature.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.

GASTROSTOMY IN A CASE OF MALIGNANT STRICTURE OF THE ŒSOPHAGUS; DEATH; NECROPSY; REMARKS.

(Under the care of Mr. J. LIONEL STRETTON.)

J. M——, aged fifty-seven, was admitted on July 22nd, 1886. He complained of difficulty in swallowing and regurgitation of food; he could not swallow any solids. There was no pain, and a large œsophageal bougie passed easily, meeting with some slight resistance opposite the cricoid cartilage. He was ordered milk *ad lib.* and four ounces of brandy daily; the bougie to be passed once or twice a week.

Aug. 5th.—The difficulty in swallowing has increased, the

effort apparently causing spasmodic stricture. The bougie meets with more obstruction in the cricoid region, and a hardened feel is apparent internally. Ordered to have two pints of milk, two eggs, and four ounces of brandy injected daily. He has lost flesh considerably.

His condition continued to get worse; he was becoming rapidly thinner, and the tubes for the injection of the milk had gradually to be reduced in size.

Oct. 1st.—Nothing larger than a No. 10 catheter can be passed. This does not cause much pain, and the nourishment is injected through it.

15th.—The patient is now unable to get up, but still takes nourishment freely by injection.

20th.—The difficulty is much increased, and it is doubtful if the catheter passes the stricture. To be fed on nutrient enemata. Ice and brandy by the mouth.

23rd.—After consultation with his colleagues, Mr. Stretton decided to perform gastrostomy.

The usual incision was made and the stomach stitched to the edges of the wound, the peritoneum being included in the sutures. No opening was made in the stomach. The operation was well borne. He was ordered a grain of opium every four hours, and to be fed with nutrient enemata. In the evening he was quite comfortable and free from pain. Temperature 99·6°; pulse good.

24th.—Temperature 98·4°; pulse regular and of good volume. Is taking nourishment well by the bowel.

25th.—Has had a fair night. Temperature 99·6°; pulse good. Complained of slight pain.

26th.—4 A.M.: He became very weak, and could not retain the enemata. 11 A.M.: At Mr. Stretton's visit he was found to be exceedingly prostrate. It was determined as a last effort to open the stomach and inject some brandy-and-milk, but before this procedure could be carried out he passed away, apparently from exhaustion, quite free from pain.

Necropsy.—Body much emaciated. On opening the abdomen the stomach was found to be adherent to the abdominal walls adjoining the external wound, the stitches intact, and there was some local peritonitis and flakes of lymph. The stomach, which was much retracted, was removed, together with the adherent abdominal wall and the œsophagus. In the course of the œsophagus there was a growth about the size of a small walnut just below the level of the cricoid cartilage, which only allowed the passage of a blowpipe. The other organs were healthy. No enlarged glands were discovered.

Microscopic examination by Professor Barling showed the growth to be a spheroidal-celled carcinoma of the scirrhous variety, with typical alveolar structure.

Remarks by Mr. STRETTON.—The above description of the growth will probably account for the failure of treatment by bougies, which would be more likely to afford relief in the softer varieties of carcinoma and epithelioma more commonly met with in this region. The operation was only performed as a last resource, with the full consent of the patient, who stated that he would rather die under it than continue his miserable existence. I feel confident that had it been undertaken earlier the result might have been otherwise; but we, as the patient, were wishful to try all other measures first. In future cases when there is no marked benefit by bougie treatment, I should not hesitate to urge the operation at a much earlier date before the powers are so much diminished.

PRESENTATIONS.—Mrs. Wardroper has been presented with a handsome silver coffee and tea service, with salver bearing the following inscription: "This salver, with accompanying service, was presented to Mrs. W. W. Wardroper, on her resignation of the matronship of St. Thomas's Hospital, by 286 former and present probationer nurses of the Nightingale Fund Training School, over which she has presided, from its beginning, for twenty-seven years, as a mark of their grateful appreciation of the inestimable services rendered by her to the profession of nursing, and of their affectionate regard and esteem. June, 1887."—The Members of Court Victoria 1895 of the Ancient Order of Foresters, Canterbury, last week presented the daughter of their surgeon (Mr. Henry George Sadler) with a very handsome marble time-piece, on the occasion of her marriage with Mr. Henry Octavius Preston, M.R.C.S.E., &c.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Ophthalmoplegia. — Quinine Amblyopia. — Sympathetic Ophthalmitis occurring after Evisceration.

A MEETING of this Society was held on Friday, July 8th, Mr. Jonathan Hutchinson, F.R.S., Vice-President, in the chair.

Mr. JONATHAN HUTCHINSON, jun., read the notes of a post-mortem examination of a case of Ophthalmoplegia Externa and Interna. The patient had been in the Bancroft-road Infirmary under the charge of Dr. Robinson, who furnished the clinical notes of the case. There was considerable defect of vision, due to nearly complete paralysis of the oculo-motor nerves of the right eye; persistent pain in the forehead and temple was complained of, and there was some proptosis and congestion of the lids. At the necropsy there was found a chronic inflammatory process about the right cavernous sinus, which had produced inflammation of all the nerves in its wall, the lumen of the sinus had become obliterated, there was partial obstruction of the internal carotid artery, and the apex of the right temporo-sphenoidal lobe was firmly adherent to the adjacent dura mater. The lesion was most probably due to syphilitic poison, the cause of the patient's death being cellulitis round a specific ulcer of the leg. He referred to two cases of unilateral ophthalmoplegia externa and interna, in which the symptoms were precisely similar to those of the present case; these were treated with potassic iodide, and each made a good recovery. He suggested that these cases were also due to syphilitic inflammation about the cavernous sinus, and laid stress on the fact that the sixth nerve (lying furthest away from the wall of the sinus) being involved the latest and to the least extent, and also the involvement of the ophthalmic division of the fifth nerve (shown by severe frontal pain or anæsthesia) pointed to this view of the pathology rather than to central nuclear degeneration. In another case there was internal ophthalmoplegia with ptosis, and the lesion was probably of cerebral origin. He related also a case of double ophthalmoplegia interna in a young man. In the whole of these cases a distinct history of syphilis was obtained, or there was good reason to suspect its presence. Where the lids were congested together with proptosis one should suspect disease involving the cavernous sinus, and in these cases the condition of the retinal veins should likewise be noted.—Mr. J. B. LAWFORD gave the history of a case of double ophthalmoplegia externa. The patient was a man sixty years of age, who, apart from trouble with his eyes, was quite healthy. For ten years he had had almost complete ptosis. The eyes moved scarcely at all in any direction. The fundus of each eye was normal, and there was no paralysis of the intraocular muscles. No history of syphilis could be obtained, and there was no sign of cerebral or spinal mischief.—Mr. HUTCHINSON pointed to Mr. Lawford's case as typical of the symmetrical form of external ophthalmoplegia, and such cases usually remained in this condition without extension or complication. When syphilis was the cause, the disease usually was symmetrical in its whole course, and usually also cerebral in position. He quoted a case much like that of Mr. Lawford's which had remained in almost the same condition for twenty years. The patient was in good health, but there was a previous history of syphilis, and he applied too late for treatment to be of benefit. He referred to another case, that of a young lady in good health, where there was no suspicion of syphilis, and in whom the disease was very gradual. In another case in which recovery took place to a surprising degree the primary cause seemed to be an injury. In tabes dorsalis it was not unusual to find paresis of a single ocular nerve, the disease progressed very rapidly, was usually asymmetrical, and was nearly always recovered from. Such cases were due more probably to a syphilitic neuritis than to central disease. He had known in such cases recovery to be spontaneous. There was yet another class, separate from the rest, in which the disease was equal on both sides, progressed very gradually, all the muscles being affected, and recovery rarely or never following. The interest in his son's case lay in the fact of the rarity of syphilitic phlebitis. He thought it would be a convenience to give the two groups of cases different names,

though he was unprepared at the time to suggest new terms. He briefly related the particulars of another case in which the lesion was unilateral, and the cause an aneurysm of the internal carotid pressing on the cavernous sinus. He inquired, in conclusion, whether there were any definite symptoms (apart from orbital periostitis or neuritis) by which thrombosis of the cavernous sinus could be diagnosed.—Dr. MULES alluded to a case of general miliary tuberculosis in a young married lady. She developed symptoms of internal and external ophthalmoplegia, first in one eye and then in the other, and died with symptoms of basic meningitis.—Mr. MACKINLAY agreed with Mr. Hutchinson that in tabetic cases with unilateral ophthalmoplegia recovery often followed without the administration of iodide of potassium.—Dr. ORD said that in his experience the unilateral cases were very commonly curable, whilst the symmetrical ones obstinately resisted treatment.—Dr. SIDNEY COUPLAND referred to the paper he had read earlier in the session on thrombosis of the cavernous sinus. He was glad to find that the observations of Mr. Hutchinson, jun., bore out the remarks he then made. Where the sinus was diseased, in the greater number of cases the other side was affected later on. He believed that a considerable number of these cases was due to disease of the sinus.—Dr. ANDERSON was inclined to think that there was a form of unilateral external ophthalmoplegia which was of cerebral origin, and incurable. He believed the following symptom would prove of value in diagnosis: When the lid of the affected side was raised, the sound one drooped to a corresponding amount, and rose when the drooped eyelid was allowed to fall. He had seen one case in which the healthy lid closed when the affected eye was covered.—Mr. HUTCHINSON, jun., in reply, could not be sure that in his case the disease originated in the sinus. It might have commenced there, and it certainly involved early the structures in its neighbourhood. He could not be sure about the condition of the retinal veins. He thought it would be very difficult to arrange the cases in classes for a fresh nomenclature.—Mr. LAWFORD was inclined to think that in his case the disease was of wide extent and of central origin.

Mr. NETTLESHIP related two cases in which Temporary Amblyopia had followed the internal administration of Quinine. One of the patients had an idiosyncrasy to the drug, which even when administered in small doses caused gastric disturbance, and on two occasions previously had brought on temporary failure of vision. The second case he called a good classical instance of quinine amblyopia.—Mr. DOYNE inquired whether any alteration in the calibre of the arteries had been noticed. He had found the arteries very much contracted in a case of quinine amblyopia, afterwards the discs became whitened, though ultimately the sight became fairly normal.—Mr. NETTLESHIP, in reply, believed the arteries were always small during the stage of amblyopia. He did not know of a single case of complete permanent blindness from this cause, though in some cases which recovered the fields were small and the arteries constricted.—Mr. HUTCHINSON alluded to the great interest of the subject of visual lesions dependent on food or drugs. He quoted a case in which it was clearly proved that coffee had caused temporary deafness.

Mr. CROSS related two cases of Sympathetic Ophthalmitis occurring after Evisceration. G. R——, aged forty, came with a wound of the left eyeball over the ciliary region, but free of the cornea, occupied by slight choroidal protrusion. The iris was inflamed, the pupil tied, the lens had escaped. The wound had been made ten days before, and vitreous had escaped. Seventeen days after the accident evisceration was done antiseptically under the spray, and a glass vitreous introduced. The operation relieved pain, was followed by considerable swelling of the lids, and discharge. In a week he was quite comfortable. Conjunctival chemosis, somewhat resembling hæmorrhoids, continued for some time; as this subsided, the glass ball was seen exposed. There was scarcely any discharge, and no discomfort. Nothing was complained of or suspected in the right until seventeen days after the operation, when the patient had dull vision and discomfort in the eye. Two days later there was distinct sympathetic ophthalmitis. The ball was removed at once, leaving the sclerotic a rigid hollow cup, which moved freely like the opposite eye. Secretion was retained. The eye was much inflamed and painful for a fortnight, and he left five weeks after removal of the ball, some circumcorneal injection and irritation remaining. Mr. Cross had recently seen him again, and the eye was perfectly normal; there was not even uvea on the lens.—J. L., aged fifty, was seen three months after a wound of the right cornea. The cornea and eye were chronically inflamed; there was iritic prolapse. The other eye was quite healthy. Evisceration and metal vitreous. Considerable inflammatory swelling and discharge lasted a week. Twelve days after the operation the ball was exposed through a small fistula; it was at once removed. In ten days the patient left. In a few days he returned, saying that after a short exposure to sunlight on the day he left, he found the sight impaired. Vision $\frac{20}{30}$ J. 4; slight circumcorneal injection; sluggish pupil, which yielded to energetic atropisation, leaving slight uvea; vitreous hazy; distinct neuro-retinitis; very red, without exudation or hæmorrhages. Gradual improvement followed. In this case the sympathetic ophthalmitis showed itself twenty-one days after operation and four months from the injury. The symptoms subsided after ten weeks' treatment. These cases were considered to be analogous to those of sympathetic ophthalmitis occurring after and in spite of enucleation, and not caused directly by the operation. A case was quoted where a child aged thirteen years had her eye removed sixteen days after a corneal wound. Forty-two days after the injury, and twenty-six days after removal of the eye, slight sympathetic ophthalmitis came on, but recovered after two months' treatment. He considered that enucleation was very superior to evisceration when sympathetic ophthalmitis threatened; it more thoroughly removed the exciting disease, gave earlier and more complete physiological rest, and thus tended without delay to resolution of the morbid process where this might have advanced beyond the part removed. There was a special danger from the incomplete inclusion of the artificial vitreous. A septic fistula might result from imperfect healing, or, later on, from wearing out of the conjunctiva between the false eye and the artificial vitreous.—Dr. MULES said that nothing was claimed for evisceration over enucleation in regard to sympathetic ophthalmitis. He did not remember to have read of other cases in which this sequence existed. He thought the first case should be looked upon as one simply of iritis, for recovery had followed in ten days without descemetitis, whereas sympathetic serous iritis was always a slow process. He knew of no clinical distinction between non-traumatic serous iritis and sympathetic ophthalmitis. There could be no doubt that the second case was one of sympathetic ophthalmitis developing late. In cases of this kind in which there was much pain he had found great benefit follow the use of the horsehair drain and the ice bag.—Mr. DOYNE considered it to be bad surgery to practise evisceration in cases of tumour of the eyeball.—Mr. BRAILEY had seen many instances of sympathetic ophthalmitis which had run a mild course and subsided rapidly and completely. He did not consider descemetitis essential, and the dots were frequently absent. He had obtained good results in many cases of evisceration, but he had not put in a glass ball. He regarded choroiditis as a contra-indication to the performance of the operation.—Mr. MCHARDY looked upon these cases as instances of true sympathetic ophthalmitis. There must sometimes be an early stage and mild form of that disease. He attributed Mr. Cross's success to the fact that he removed the exciting cause.—Mr. CROSS, in reply, said that evisceration was a valuable operation in certain suitable cases, but it should not be performed where there was sympathetic ophthalmitis. In his cases the globe had not entirely healed, and he thought the wound thus left had something to do with the causation of the sympathetic disease.

The following living and card specimens were exhibited:—Mr. Spencer Watson: (1) Sequel to a case of Hæmorrhagic Glaucoma; (2) A case of Serpiginous Nebula of Cornea. Mr. R. N. Doyne: A new Optometer.

The annual general meeting was held at 9.30 P.M. The report of the Council was read. There are now 205 members of the Society, twenty-five of whom are non-resident. There had been fourteen admissions and three deaths since the last annual meeting. Reference was made to the fact that Professor Zehender of Rostock had delivered the last Bowman lecture, and that Mr. Henry Power had kindly undertaken to deliver the next. A large number of donations had been made to the library, amongst which must be mentioned a series of von Graefe's Archives, presented by Mr. James Dixon of Dorking. The annual report of the treasurer was presented.

The following officers and Council were elected for the year 1887 88:—President: John Whitaker Hulke, F.R.S.

Vice-Presidents: Mr. Jonathan Hutchinson, F.R.S.; Dr. George Johnson, F.R.S.; Mr. E. Nettleship; Dr. D. Argyll Robertson (Edinburgh); *Mr. Priestley Smith (Birmingham); and Mr. T. Sympson (Lincoln). Treasurer: Dr. William M. Ord. Secretaries: Mr. Seymour J. Sharkey and Mr. Robert Marcus Gunn. Other Members of Council: Dr. John Abercrombie, Dr. W. A. Brailey, *Mr. Edgar A. Browne (Liverpool), Dr. Sidney Coupland, Mr. Walter Edmunds, Mr. H. E. Juler, Mr. William Lang, Dr. J. B. Lawford, *Mr. M. M. McHardy, Mr. A. Stanford Morton, Dr. P. H. Mules (Manchester), and Mr. J. B. Story (Dublin). Librarian: Mr. W. Adams Frost.

The gentlemen whose names are marked with an asterisk (*) were not in the Council, or did not hold the same office, during the preceding year.

OBSTETRICAL SOCIETY OF LONDON.

A MEETING of this Society was held on Wednesday, July 6th, Dr. John Williams, President, in the chair.

Dr. STEAVENSON showed a number of instruments used in electrolysis, including a set of electrodes, &c., as used by M. Apostoli of Paris.

Dr. HORROCKS exhibited a specimen of Chronic Endometritis with microscopical sections.

Dr. W. S. GRIFFITH showed a drawing and section of a Uterus in which a "contraction ring" was well seen. It was removed shortly after a labour terminated by Cæsarean section.

Dr. LEWERS showed a Fibroid Tumour removed from the anterior vaginal wall.

Dr. GALABIN exhibited two specimens of Uteri removed per vaginam for supposed malignancy. Under the microscope the appearances of one were those of ulcerative endometritis, the other was a case of round-celled sarcoma. The former patient recovered, but the latter died.

Adjourned discussion of Dr. Griffith's paper on Tubo-ovarian Cysts.—Mr. DORAN considered that Dr. Griffith's definition of a tubo-ovarian cyst was sound enough for practical purposes. The term "ovarian cyst" was, however, vague, as the nature of cystic disease of the ovary, other than that kind for which ovariotomy was performed, was very uncertain. In any form of obstruction of the tube, such as that which led to cystic dilatation, the uterine end was probably closed by swelling of the mucous membrane. Mr. Doran then exhibited several specimens. The Fallopian tube was very rarely diseased in true cystic tumour of the ovary. In one specimen, where the tube was inflamed and bound down to the surface of the cyst, the ostium was patent and the fimbriæ unaffected. Another series of specimens showed the most frequent origin of tubo-ovarian cysts—namely, chronic inflammation of the uterine appendages, whereby the tube and ovary became bound together, and ultimately underwent cystic degeneration, their dilated cavities communicating by the same process as was observed in the septa of multilocular cysts. Many observers made out that the obstructed ostium opened again into the cavity of the cystic degenerated ovary, but that was exceptional. The congenital form was very rare; but Paltauf's case, recently reported in the *Archiv für Gynækologie*, was probably of this kind. A woman died of peritonitis after attempted abortion; a fœtal cyst was found behind the uterus, which communicated with the dilated Fallopian tubes, so that there was a free channel from the uterine cavity round through the tubes and cyst back into the cavity. The parenchyma of the ovaries was flattened, but contained healthy follicles. This condition could hardly have been caused by disease; it was a congenital malformation; but Dr. Paltauf's memoir required study. Congenital tubo-ovarian cysts, and that kind where the fimbriæ adhered to a cyst on the surface of the ovary, were exceptional; as a rule, a tubo-ovarian cyst was one of the forms of degeneration caused by chronic disease of the appendages. —Dr. HORROCKS remarked that whatever might be the true history of the formation of so-called tubo-ovarian cysts, whether primarily beginning in the Fallopian tube or the ovary, or in neither, these structures were apt to become welded together where they were in contact, and he believed the starting point of such union was frequently the ovary.—Dr. GRIFFITH replied.

On Diabetes Insipidus in Pregnancy and Labour.—Dr. MATTHEWS DUNCAN cited two cases of the disease. One of them was congenital and persistent, and in it there were eleven pregnancies. He narrated other two cases from his own practice, and in one of these there were four pregnancies during the currency of the disease. Diminution of the quantity of urea secreted appears to be of great importance in it. Similar cases of greatly reduced secretion of urea, with feelings of weakness and sickness, Dr. Matthews Duncan has observed in women not pregnant or recently delivered.

The Mechanism of the Third Stage of Labour.—Dr. FRANCIS H. CHAMPNEYS dealt with Part 4 of this subject under the heading "Some Causes of Retention of the Membranes." Having referred to the description of the process given in a former paper, the author showed that the "plane of least resistance" for separation of the membranes is in the decidua, generally in the ampullary layer. Any change which renders this more tough, or which renders any other layer more friable, will alter this "plane of least resistance." Thus, undue friability of the chorion, or less firm adhesion between chorion and amnion than between the layers of the decidua, will determine a separation of the chorion and amnion. The early separation of the lower pole of the ovum tends to guard against a common defect—viz., failure of separation (retention) of the membranes round the os internum. Rupture of the membranes at the proper time is an essential part of the proper mechanism. The proper time is, in nature, when the os is about three to three and a half inches in diameter, and has a projection of three-quarters to one inch. Premature rupture will prejudice the separation of the lower pole of the ovum. Too late rupture tends to produce prolapse of the bag, which is usually accompanied by giving way of the chorion and advance of the amnion alone. Undue or relatively undue toughness and elasticity of the amnion are equivalent to a tardy escape of the waters. As regards the removal of the membranes by traction of the descending placenta, the author remarked that the membranes as a whole owe their tenacity principally to the amnion; the adhesion of the amnion to the chorion is no doubt one of the safeguards against retention of the chorion. Thus, any disorder of the first process of the mechanism tending to separate the two ovuline membranes predisposes to retention of the chorion. An analysis of ninety cases bearing on the matter was given. The conclusions were: 1. That the mechanism of the detachment and expulsion of the membranes is a complex act in three stages. 2. Timely rupture of the bag of membranes is an essential part of the proper mechanism, and too early or too late rupture alike predispose to retention of the chorion. 3. Disorder of any of the three stages in the mechanism tends to prejudice the whole process. 4. Among allied conditions may be mentioned too early or too late rupture of the membranes, prolapse of the bag of membranes, prolapse of the membranes (amnion) after delivery beyond the vulva; separation of the membranes found on examination of the placenta; retention of a ring of membranes round the lower pole of the uterus; retention of the whole chorion. The practical conclusions were: 1. The membranes should generally be preserved till the os is fully dilated. 2. After this they are not only (in ordinary cases) useless, but they—that is, the persistence of the amnion—favour the retention of the membranes. 3. They should, therefore, be ruptured when the os is fully dilated. 4. In vertex cases, if the head has settled over the os uteri, the advance of a smooth, sausage-shaped protrusion of membrane points to advance of the amnion alone, which favours retention of the chorion. 5. Separation of two membranes not only points to adhesion of the chorion, but renders its subsequent removal more difficult. 6. This axiom may be formulated: "When the membranes advance low in a vertex case, look out for retention of the chorion."

The Relation between the Implantation of the Placenta and the Insertion of the Cord.—Dr. Champneys also submitted a note on this subject.—In his work, "Accouchemens Laborieux" (suite p. 110, *et seq.*), Levret makes the following statements:—That the insertion of the umbilical cord into the placenta varies as the insertion of the placenta on the uterine wall. If the placenta is central, the cord is centrally inserted; if the placenta is excentrically planted, the cord is inserted nearer to the lower edge; if the placenta approaches the lower uterine orifice, the cord is inserted to its edge ("battledore placenta"), and, indeed, to its lower edge. This is given without corroborative facts, as an *ipse dixit* of Levret; but it still survives though more than 130 years old, and has even (at least in part) been endorsed by the writers of some of our most recent books. Under these

circumstances the author thought it worth while to put the matter to the test. If it prove true, it is so remarkable a fact that it should be accounted for; if it be false, the sooner it is relegated to the proper place for unauthorised statements and *ipse dixits* the better. The following analysis of 188 cases treated in the General Lying-in Hospital is offered as a solution of the question. The patients number 188, but as one of them bore twins the number of placentæ is 189. The table contains the class of insertion of the cord, states whether its insertion was up or down, and gives the measures from which this is derived. The next two columns give the position of the placenta in the uterus; the last two columns give the position of the insertion of the cord in the uterus. It will be seen that there is no order or proportion apparent in any of these relations. As regards the position of the cord:—

Insertion of cord.	Direction of point of insertion.							
	Up.		Down.		Midway.		Not noted.	
Central ...	17	...	18	...	17	...	4	
Lateral ...	46	...	54	...	16	...	1	
Marginal	7	...	5	...	—	...	—	
Velamentous	1	...	1	...	2	...	—	
	71	...	78	...	35	...	5	
Total		...		...	189			

Levret's dictum, therefore, has no foundation in fact.

The PRESIDENT, in opening the discussion on Dr. Champneys' series of valuable papers, did not think that late rupture need cause retention of the membranes.—Dr. MATTHEWS DUNCAN valued highly this series of papers. He would have preferred protrusion or expression of the membranes to prolapse, as bearing a truer meaning. He was not inclined to adopt any rule of interference by rupturing the membranes at a certain stage of the dilatation of the external os, regarding all kinds of interference as undesirable, except when distinctly called for. He did not regard the site of rupture of the membranes as a sufficient basis for a statement of the height of the placental insertion on the uterine wall. He thought Dr. Champneys had disproved Levret's dictum as to insertion of the cord.—Dr. CHAMPNEYS, in reply, said that when he spoke of late rupture of the bag of membranes, he did not refer so much to time, but to a certain point in the process, that after the bag was hemispherical its dilating power ceased, and it could not advance without rupture of the chorion, and if this took place the amnion advanced alone and peeled itself off the chorion, which then was often left behind. He used the term "prolapse" of the bag as an exact translation of the technical German for this occurrence, and to avoid mistake had placed the term in brackets in the paper. He thought the method adopted for determining the seat of the placenta was the best we possessed, and that the errors in a large number of cases would not be sufficient to invalidate general conclusions.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

AT a meeting of the members of this society on June 7th, after the report of the Council had been adopted,

Professor MACALISTER read a paper on Some Common Errors in Descriptions of the Brachialis Anticus Muscle. This muscle was chosen, not because the descriptions of it were more inaccurate than those of the other muscles, but because it was convenient for the purpose in view—namely, to exemplify the general incorrectness of anatomical descriptions. The paper concluded with a correct account of the muscle; and Professor Macalister said he proposed to consider others in a like manner.—Mr. STONHAM drew attention to the appearance of the tendon of the brachialis anticus, and said it was of surgical importance.—Professor THANE said text-books were likely to benefit by this mode of criticism, and asked questions, to which Professor Macalister replied.

Dr. BROOKS of Dublin then read a paper on the Short Connexion Muscles of the Pollux and Hallux of Anthropoid Apes (see next column), and in the discussion which followed Professors Macalister and Thorne took part.

Mr. SUTTON then read a paper entitled a "Critical Study in Cranial Morphology." It was claimed that upon anatomical, morphological, and embryological grounds the dura mater ought to be considered the original skull wall, and that therefore the ganglia of the fifth, facial, and eighth nerves were extra-cranial. The relations of various nerves to the subcranial arches were next reviewed.—Mr. LOCKWOOD said he had found that the facial nerve and internal carotid artery had the relations to the skull which Mr. Sutton described, and, although he had not seen more than two ossific centres in the malar bone, nor three which had been described in the lower jaw, yet he thought there was much to be said for the first part of Mr. Sutton's contention.—Professor THANE also doubted the existence of more than two centres in the malar bone.—Professor MACALISTER could not find as many centres in the lower jaw as Mr. Sutton described.—In reply, Mr. SUTTON promised to bring specimens to the next meeting.

Mr. BERRY then read a paper on a ligament which, on either side, suspended the thyroid gland to the cricoid cartilage.—Professor HUMPHRY agreed that Mr. Berry's specimen showed a pair of strong ligaments.

The following specimens were shown:—Mr. Rickman J. Godlee and Mr. C. Stonham: Casts of Bronchi. Mr. Jas. Berry: Suspensory Ligament of Thyroid Gland. Dr. W. J. Collins: Abnormal Aortic Arch. Professor Curnow: Subclavian Artery passing in front of Scalenus Anticus. Mr. Lockwood: Cases for Mounting Frozen Sections.

ACADEMY OF MEDICINE IN IRELAND.

Dissection of Plantar Arch from Dorsal Aspect.—Varieties in Origin of Phrenic Nerve.—Anthropoid Apes.

AT a meeting of the Subsection of Anatomy and Physiology, held on May 5th,

Dr. BROOKS showed a dissection of the Plantar Arch from the Dorsal Aspect of the Foot. This dissection was performed by removing the three middle metatarsal bones from above.

Dr. BROOKS read a paper on the Varieties in the Mode of Origin of the Phrenic Nerve, with some notes on nerve variations in the superior extremity.

Dr. BROOKS also read a paper on the Short Muscles of the Pollux and Hallux of Anthropoid Apes, with special reference to the Opponens Hallucis. The author remarked that the number of distinguished anatomists who have written on the structure of the anthropoid apes might make this paper appear a work of supererogation, were it not that very material differences occurred in their writings, more especially in regard to the small groups of muscles which he proposed to describe. The labours of von Bischoff, D. J. Cunningham, and others had shown that the names usually applied to the thenar muscles of the human hand conveyed an altogether erroneous idea of their morphology; he therefore adopted the following names for the short muscles of the thumb: *abductor* and *opponens pollicis*, as ordinarily described; *flexor brevis pollicis*, consisting of a radial and an ulnar head—*radial head*, as described by Gray and Ellis; *ulnar head*=the *interosseus volaris primus* of Henle—a small deeply-placed muscle arising from the base of the thumb-metacarpal bone and inserted into the sesamoid bone, at the ulnar side of the metacarpo-phalangeal articulation of the thumb; *adductor pollicis*, consisting of three parts—(*a*) a *slip* attached to the radial sesamoid bone of the thumb (regarded by Quain as part of the radial head of the flexor brevis pollicis); (*b*) *adductor obliquus*=the so-called *inner head of the flexor brevis*; and (*c*) *adductor transversus*=*adductor pollicis*. After describing the short thumb muscles of the chimpanzee, orang, and gibbon in detail, the author concluded that the pollicial muscles of the gibbon differ from man—(1) in the proximal position of the adductor; (2) in the part-insertion of the adductor into the metacarpal bone of the thumb; (3) in the prolongation of two of the short muscles (adductor and flexor brevis) to the ungual phalanx; and (4) in the greater relative development and more palmar position of the true ulnar head of the flexor brevis. The orang differs from man chiefly in its very feeble opponens. The opponens is very human in its character in the other two apes. The ulnar head of the flexor brevis is less developed in the orang than in the gibbon, but is still large in comparison with the interosseus primus volaris of man, and much more palmar in position than the latter muscle. In the chimpanzee all the thumb muscles are excessively human, but the ulnar head of the flexor brevis has suffered a still further reduction

than in man, being here reduced to a fibrous rudiment. After referring to the works of Vrolik, von Bischoff, Duvernoy, Huxley, Church, Champneys, Hartmann, and others, the author proceeded to describe the short muscles of the hallux, in which the principal interest centred in the opponens hallucis. He had only found an opponens hallucis, derived from the tibial head of the flexor brevis hallucis, and therefore homologous to the opponens pollicis, in the orang; it was absent in the chimpanzee and gibbon (he had not had an opportunity of examining the gorilla). In all three anthropoids, however, he had found some fibres of the abductor hallucis inserted into the metatarsal bone of the hallux, and these would come under Professor D. J. Cunningham's definition of an opponens—viz., "any intrinsic muscle of the foot which is inserted into the shaft of a metatarsal bone" (Zoology of the *Challenger*, vol. xvi., p. 137). The opponens hallucis described by Hartmann in the gorilla, chimpanzee, and gibbon is probably of this nature, as in the gibbon he describes an opponens "to which a large fan-shaped adductor is attached.

Malformation of the Shoulder Joint.—Capillary Transudation.—Fracture of the Skull.

At a meeting of the Pathological Section held on May 13th, Dr. E. H. BENNETT exhibited a specimen of Malformation of the Shoulder Joint. It was a form of malformation or disease that he had never seen before, and the only way in which he could read it was that it was not congenital, nor the result of a fracture or dislocation, but a condition brought on by the action of a burn, the cicatrices of which existed on the limb and near the joint. The limb belonged to a slender man of middle age. It was dissected in the School of Physic, and had previously attracted attention in consequence of deformities that appeared in the fingers, the result of burn contractions. The little finger was burned towards the ulnar side, and its extremity had been lost; and the finger next it had suffered similarly, but to a lesser degree. The cicatrices were not such as to produce large webs or great deformities, but the end of one finger was completely destroyed, and there were marks upon the limb of burning of the skin. These were the only circumstances that threw light on the question of the cause of the deformity. It was noticed before the dissection was made that the shoulder joint, although not completely fixed, was limited in its range of motion. There was nothing abnormal in the muscles, except that those of the dorsum scapulæ were to some extent wasted; all the muscles were otherwise good. The condition of the shoulder joint was curious. On clearing away the soft parts on the outside of the joint, Dr. Bennett found what at first sight appeared to be the head of the humerus directly underneath the muscles, without any capsule, while the upper part of the humerus was distorted and bent. There was no disease of the scapula or glenoid cavity; on the contrary, everything there was normal. The length of the fibrous capsule was very small. The appearance as of a head of the humerus which the specimen presented, looking at it from the outer side, was fallacious. On turning the specimen, it was seen that the head of the humerus was half buried in an ossified capsule, while the remaining half of the capsule was free, soft, and flexible, and received the attachments of the capsular muscles normally on the axillary side. There were no deep cicatrices involving the muscles, and the tendons and joint had been in no way affected except by the skin contraction. It was hard to account for this condition of the capsule and the extraordinary limitation of the ossification of it to the outer side. On the inside the cartilage of the joint was perfectly normal. He had not made any section through it, because he did not think it would reveal much. The head of the bone was greatly distorted in position. He did not think there had been any fracture of the bone, but believed that the flexion of the upper part of the bone and distortion of the head of it had been produced by the limited range of movement resulting from the superficial cicatrices.

Mr. STORY exhibited an apparatus intended to illustrate an experiment of Körner upon Capillary Transudation. In reply to questions, Mr. Story said that the experiment of Körner was published in 1873; but in spite of the vast amount of work that had since been done in connexion with glaucoma, no one seemed to have noticed its importance till Birnbacher and Czermak had taken up the subject in their paper in the December (1886) number of Graefe's Archives.

Dr. HEUSTON exhibited the Skull and Brain of a gentleman, aged sixty, who had fallen from a window into a flagged area on his head, a distance of twelve feet. After the accident he presented no evidence of serious lesion for five days, when symptoms of cerebral irritation began, eventuating in hemiplegia of the left side of the body on the tenth day, when he died from paralysis of the muscles of respiration. The skull presented a fracture occupying the posterior portion of the right parietal bone, which included a somewhat quadrilateral area, the enclosed portion of bone being further broken into three portions, the upper of which was depressed, while the two lower were elevated at their junction. From the posterior-inferior angle of this fracture a fissure extended through the masto-occipital and petro-occipital sutures to the jugular foramen, from which a fracture extended into the foramen magnum posterior to the occipital condyle. An extensive clot was also found occupying the position of the fracture, and also filling the posterior fossa of the skull between the dura mater and the bone; the dura mater in this situation presented a laceration an inch in length. The right cerebral hemisphere presented a laceration at the junction of the occipital with the temporo-sphenoidal lobe, extending obliquely upwards and backwards for an inch and a quarter, and being half an inch in breadth. The inferior aspect of the right lobe of the cerebellum showed a laceration occupying the biventral lobe half an inch in length.

Reviews and Notices of Books.

Leçons sur les Auto-intoxications dans les Maladies. Par Ch. BOUCHARD. Recueillies et publiées par le Dr. P. LE GENDRE. Paris: F. Savy. 1887.

PROFESSOR BOUCHARD has made the subject dealt with in this course of lectures delivered at the Paris Faculty of Medicine his own, and there is no gainsaying that it is a subject abounding in interest and novelty, and at the same time of very great importance. It constitutes an attempt to unravel the hidden processes of disease by the demonstration that a large proportion of the symptoms of disease depends upon the operation of materials obnoxious to normal nutrition, whether such poisons be introduced from without or be the accumulated products of metabolism retained within the organism by failure of the eliminatory organs.

The key to the last-named source of "intoxication" is to be found in the composition of the urine, which has been studied by Professor Bouchard from the point of view of its "toxicity," with so much care and elaboration that he is enabled to give numerical expression to the degree of toxicity possessed by this product of excretion. It is singular to read these values in terms of the amount of living animal matter destroyed by a given quantity of urine, but it is not easy to detect any fallacy in the argument, whilst it furnishes us with a new point in the estimation of toxic action. The study of the toxicity of urine in general, and a comparison of the degrees of toxicity at various times and in various conditions, is followed up by an analysis of the constituents concerned in these effects. Hitherto, with one or two exceptions, it has not been found possible to isolate these constituents, which, having different physiological actions, must be presumed to differ in chemical composition. Most of them are organic but not alkaloidal; some are soluble in water, others in alcohol—urea is one and potash another; whilst a third resides in the colouring matters of the urine; but more than this it is not possible to affirm. By physiological analysis it is, however, possible to infer the existence of at least seven different agents having toxic powers in the urine. There is a diuretic substance — this is probably urea—which is characterised as the most powerful of known diuretics. Secondly, there is a narcotic, and thirdly, a sialogenic substance, neither of which has been isolated chemically. Then there are two products one organic the other mineral, which induce convulsions in the animal acted upon by them; there is no doubt that the mineral substance

having this action is potash. Then there is a body that is signalised by its powerful myotic action, causing marked contraction of the pupil; this may be found in the colouring matter. Lastly, there is an agent that depresses bodily temperature. The phenomena of uræmia—of which the various theories propounded are in turn discussed by the author—are well explained by the action of some or all of these toxic agents retained in the blood through the failure of the kidneys to eliminate them, and the predominance of one class of symptoms over another may be due to the relative preponderance of one or other of these poisonous constituents.

The toxicity of urine being established, the next step in this physiological inquiry is to determine the sources whence the urine receives the several toxic agents. The blood, the tissues, the intestinal canal, the bile, are therefore each studied in this relation, with experimental proof of the facts advanced. The sum of all these researches is to place first in the rank of toxic animal products mineral substances, especially potash, whether derived from food or from tissue metabolism; next in importance come the products of intestinal putrefaction, ammonia being among the chief; and thirdly, the organic products of metabolism, with which may also be classed the small quantity of bile that is absorbed from the surface of the intestine. Although of necessity these materials all pass through the blood, yet in health the blood has a feeble toxicity as compared with the urine, in which these products accumulate prior to their discharge from the body. It is shown that the urine may be deprived of some of its toxicity by arresting intestinal putrefaction—in other words, by intestinal antisepsis; for which purpose Professor Bouchard assigns most value to the use of charcoal and of naphthalin; and accordingly we find attention to such measures urged in the treatment of uræmia, to which he devotes other lectures. Indeed the subject of auto-intoxication through the intestines, whether in constipation or ileus, is one which cannot fail to have been present in the mind of every physician; but the extension of the same idea to gastric dilatation is more novel, and in some respects very startling. It is, however, a subject which Professor Bouchard deals with in an exhaustive manner; so that, if he does not convince, he at any rate suggests ideas which give a wider meaning to the term dyspepsia, and to the results that may accrue from it. The catalogue of maladies attributable, on his reasoning, to dilatation of the stomach through the absorption of poisons into the blood is a lengthy one. It requires a considerable effort to accept the notion that albuminuria, nodular rheumatism, osteomalacia, certain skin diseases, and many other affections have an etiology in common in derangement of the normal processes of digestion. At the same time it must be confessed that it is just on this subject of etiology that we are most ignorant, and any reasonable hypothesis which can be shown to be based on facts is not to be lightly set aside. Professor Bouchard has maintained his thesis in spite of opposition and ridicule, and is confident that time will show that his conclusions are just.

The doctrine of intestinal auto-intoxication is further advanced in explanation of some of the phenomena of typhoid fever, where the value of intestinal antisepsis is urged, combined with general antisepsis—i.e., the administration of drugs directed against the typhoid virus, the use of graduated baths, and a regulated diet. From this subject the lectures pass to the discussion of the toxicity of bile and the effects of retention of bile on the system. It is shown that were it not for the elimination of the colouring matters by the urine and their fixation in the tissues, jaundice would speedily have a fatal issue, for the biliary colouring matter is highly toxic. The bile salts also act deleteriously by destroying muscular tissue and blood corpuscles, thus setting free mineral and organic matters, notably potash, the poisonous effects of which have been demonstrated. In malignant jaundice these toxic agents exert their full power, because, owing to the liver itself being profoundly deranged, there is no formation of urea, and the kidneys are deprived therefore of the influence of their natural diuretic, and the elimination of the biliary poisons is thus prevented. Diabetes and cholera are also discussed from the same point of view, and it is shown that in the latter we have not only to contend against the primary action of the choleraic virus, but also with uræmia.

We can warmly commend these lectures to careful study. They cover, as we have intimated comparatively new ground, and they do this in a manner at once so clear and detailed as to carry the reader with them. But apart from this, they suggest lines of thought in the problems of pathogeny which are well worth maturely considering and putting to the test of observation.

Abdominal Surgery. By J. GREIG SMITH, M.A., F.R.S.E., Surgeon to the Bristol Royal Infirmary, late Examiner in Surgery, University of Aberdeen. London: J. & A. Churchill. 1887.

MR. GREIG SMITH'S book will undoubtedly be useful. It is a careful attempt to describe all the various operations which are generally grouped together as abdominal, and by reference to its pages much time that would otherwise have to be devoted to looking up scattered articles will be saved. The book opens with a chapter on the Diagnosis of Abdominal Tumours, which is followed by a description of the general conduct of abdominal operations and of the after-treatment of the patients. In this chapter the influence of Mr. Lawson Tait's teaching upon the author is very evident. Then follow several chapters devoted to the special operations upon individual abdominal organs. Among these the urinary bladder is not included. We can quite appreciate the reasons which led Mr. Greig Smith not to describe supra-pubic puncture or incision of the bladder as an "abdominal operation," especially as they are extra-peritoneal. But as the suture of a rupture of the peritoneal aspect of the bladder promises to be the best mode of treating this injury, and as it is so similar in its *technik* to enterorraphy we should suggest to Mr. Greig Smith to include it in any future editions of the work.

The whole work is clearly written and carefully done. Authorities have been diligently consulted, and so far as we have noticed all descriptions are accurate. Divergencies of opinion are fairly given, and arguments are advanced with ability. The author has striven to portray the present position of abdominal surgery, and in the form analogous to a text-book, rather than to draw from his own experiences only for his facts. We consider his book a success and anticipate for it a favourable reception.

ST. JOHN AMBULANCE ASSOCIATION, SCARBOROUGH.—During the past winter two detached classes of first aid to the injured have been held, one for men and one for women. The lectures were fairly well attended, the joint classes numbering 34; of this number 26 presented themselves for examination, all of whom received certificates. Lectures were also given at Ganton and were very well attended, each class numbering 30. Thirty-eight candidates from the two classes presented themselves for examination, and 32 received certificates. A single lecture on the restoration of the apparently drowned was also given at St. Thomas' schoolroom to the fishermen, and was well attended. The classes were instructed by Mr. W. H. Beverley, L.R.C.P. Lond., &c. of Scarborough, and examined by Mr. E. Atkinson, F.L.S., &c., of Leeds.

TRICHINOSIS IN CARTAGENA.—*El Siglo Medico* states that there have been a number of cases of trichinosis in Cartagena, and that up to the present time no less than twenty-three persons have died of the disease.

New Inventions.

NEW MEDICAL BATTERY, ILLUMINATORS, AND CAUTERY.

THE battery depicted below appears to be likely to obviate many of the objections hitherto raised to the use of electricity in medicine on account of its alleged "unmanageableness." Its primary object is to develop the electric light in many convenient forms; but it can also, with but little modification, be applied for galvanisation, faradisation, and cauterisation. The battery (Fig. 1) consists of four improved Leclanché's cells, the elements being zinc and carbon, with some oxide of manganese, excited by dilute sal ammoniac; they are connected together as single cells, with power of selecting any number; they are enclosed in a neat box, measuring 7 in. high, 11 in. long, and 6½ in. deep, and having a drawer for the conducting wires and various appliances required. Metal sockets, marked N and P, receive the ends of the wires, which are sufficiently long to admit of the battery being placed at a convenient distance, and the number of cells employed is controlled by a selecting lever at the left of the surface plate, while more accurate graduation is accomplished by moving a second lever acting on a resistance coil more or less to the right. By the provision of suitable rheophores, this battery can be used, so far as its range extends, for galvanisation in the same manner as ordinary galvanic batteries, its full estimated electro-motive force being equivalent to about eight cells of a Stöhrer's constant current battery. By the addition of a small coil, with adjustments, faradisation also can be administered; also a small platinum loop with switch can be instantly brought to a white heat, so as to be readily available for minute cauterisation. The conductors are of thin strands of wire, carefully insulated with silk, and united for convenience through the greater part of their length. The lamps to be used with the above are small incandescent ones, composed of minute glass beads, containing a filament of carbon connected with platinum wires passing through or along the shafts of the various instruments to their external extremity, where they terminate in suitable sockets for the reception of the conducting wires leading to the battery. These instruments are for the present constructed of three patterns, and each is furnished with a commutator or switch for cutting off or admitting the current at will. The first (Fig. 2) is the lamp in its simplest form, and consists of a shaft of celluloid, 8 in. long, covered at its further extremity with the small incandescent lamp referred to, half sunk in a cup-shaped receptacle which protects the user's eyes from undue tension, while at its hither end is a small spring connector not shown in the drawing, which when pressed by the thumb completes the circuit and displays the light. This instrument serves for examinations of the ear and nose, with or without a speculum, and is adapted for the use of dental surgeons. The second is used for examining the vagina or rectum through a tubular speculum of any available size. In this the lamp, which is similar in construction to the one just described, but much more slender in the shaft, is attached to an expanding ring which adapts itself readily to any size of speculum, clinging slightly to it, so as not to be displaced by accidental movements. The lamp and ring are slid along the speculum to its extremity, so that its rays are concentrated precisely where they are required, and the mouth of the speculum is not blocked up by clumsy apparatus which obstructs the observer's view and impedes the employment of cautery or other instrument. The third pattern (Fig. 3) is intended to be used chiefly for the examination of the palate or larynx, though it will also serve for inspecting the vagina by depressing it. It consists of a celluloid spatula, bearing a lamp at its further end half sunk in a cavity of its substance, so as to present only the most trifling elevation above its surface. The wires of this lamp are conducted to the commutator in a deep closed groove along the edges of the spatula, and it will be seen that the instrument can be used as a tongue depressor as well as an illuminator. The heat evolved by these lamps is inappreciable. Mr. T. Partridge Salt, Corporation-street, Birmingham, is the inventor and manufacturer of these instruments.

FIG. 1.

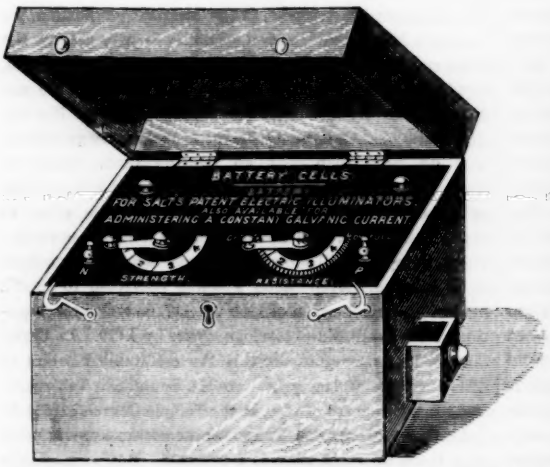


FIG. 2.

FIG. 3.

NURSERY DIAPERS.

WE have received from Messrs. Barton and Co., Towel Manufacturers, Congleton, some specimens of Turkish nursery napkins for children's use. They appear to us to be well adapted for the purpose in view, as they are soft and absorbent, and easily cleaned by being soaked, which all napkins should be, in cold *soft* water. The napkins in question are made in two convenient sizes—23 in. by 23 in. and 27 in. by 27 in.

THE LANCET.

LONDON: SATURDAY, JULY 16, 1887.

IT is too soon to state with exact precision the sum of the Hospital Sunday Collection for 1887; but it is possible to guess that it will not very materially differ from that of last year. It will not be large enough to satisfy the great wants of the hospitals, or the large views of those who maintain that the united churches of London should be able easily to raise £100,000. But it will still be a large collection, and will represent much good will on the part of the religious communities of the metropolis. The exceptional nature of the year, as the Jubilee of Her Majesty's great reign, may yet tell in favour of the great institutions in which the sick find help and refuge in the day of their calamities. It may well be that some generous hearts are still exercised in devising liberal things that shall make the year more glorious still, and bring joy to the hearts of anxious treasurers; but so far as at present appears there will be no conspicuous increase in the church collections, and there may possibly be a slight falling off. We will not deny that we feel some regret at this fact. We have no sympathy with certain of our contemporaries who, some of them claiming to speak in the name of charity and philanthropy, seem to find a certain satisfaction in the limitations of this collection, and who speak as if the utter failure of the institution would be rather a gratification to them than otherwise. These are strange sentiments to find expression in organs which are supposed to appeal to the benevolence of the public. One such contemporary labours to explain if not to justify such sentiments. Amongst other reasons he adduces a very far-fetched one, "the absolute delay which some persons suffer who require the immediate relief afforded by surgical appliances." Whatever the shortcomings of the Hospital Sunday Fund, and, like all other human institutions, it has its faults, it has had much praise for the promptitude with which, so long as its funds last, it supplies surgical apparatus, and many a person wanting an artificial limb, or an elastic stocking, or a surgical boot has had occasion to bless the Hospital Sunday Fund, or rather the minister of the church or chapel who contributed to it. Another excuse for criticising the Hospital Sunday Fund is almost equally invalid—viz., the views of one or two members of the Council as to the action, or rather inaction, of certain hospitals in reference to the local meetings for promoting the Hospital Sunday Fund. To found on them any argument for the decline of the fund is to build on a very infirm basis. The rules of the fund are the work, not of the Council, but of the constituents in annual meeting assembled in December. It will be time enough when the constituents alter the rules to object to them. Meantime, they are admittedly fair, and give the Council no authority to interfere in the internal administration of hospitals. We have read a statement by Mr. JOHN BIDDULPH MARTIN, treasurer of the Charing-cross Hospital—one of the hospitals complained of by Sir EDMUND CURRIE for want of interest in the local meetings. Mr. MARTIN, on the strength of very imperfect newspaper reports of what happened at the meeting in May, speaks of the "Committee" (Council) "endorsing and publishing the opinions of its honorary secretary, and thus doing injustice to the hospital." Mr. MARTIN expresses full appreciation of the benefits hitherto derived from the Hospital Sunday Fund. We therefore feel sure that on reflection he will see that he is at least premature in the charge which he brings against the Council. Sir EDMUND CURRIE is one of the truest and most hardworking friends of hospitals and of the Hospital Sunday Fund; still Mr. MARTIN will find at the December meeting that his views will be duly and fairly considered.

The collection for 1887 will, we repeat, be not materially different from that of 1886, and the Jubilee so far has not added to the fund. It may do so even yet. But let us not give way to too much disappointment if it does not. The Jubilee calls have been legion. And we may easily expect too much of the churches. We forget that they have great expenses to bear, that not a few of them have private charities of their own to support, and that their members still are the chief private contributors to our great hospitals. When we compare the Hospital Sunday Fund of London and that of other large towns, to the discredit of London, we must not forget that London charities largely receive the blind and the deaf, the halt and the sick, of the provinces. London gets well blamed for her luxury, and we are not disposed to say she gets too much blamed. But we can easily see that many London congregations cannot well do more than they do for the fund. Many of them have a struggle to support their ministers and the ordinances of religion, and yet make a noble effort to help the hospitals. All honour to them. So far as we yet know, the result will show that in most congregations there is an increase. Even Canon Fleming contrived to exceed his handsome collection of 1886 by £17, and the congregation of St. Paul's, Knightsbridge, theirs by £119. In Christ Church, Lancaster-gate, there is the creditable increase of £236 over that of last year. In Mr. Spurgeon's Tabernacle there is an increase of £50, in the Temple Church of £64, in Union Chapel of over £40. There is an increase in more churches than those in which there is a decrease. But we may here remark that although St. Jude's, South Kensington, does not quite reach its last year's total, its vicar, the Rev. Dr. Forrest, is to be congratulated that the falling off is merely nominal, and that it still maintains a foremost position. With such facts, and with all the distractions and expenses of this London season, it is clear that the fund has lost nothing of the goodwill of the religious community, even if we have to recognise that there are limitations to the amount of support to hospitals to be expected from this quarter.

THE invalid is obviously under restrictions regarding both the *when* and the *where* of his holiday from which the ordinary holiday seeker is free. Exigencies of health may compel a holiday at any season, and render imperative a careful choice of locality to meet the special needs of each individual case. The subject being, however, much too wide for proper treatment within the short space of a single article, we shall select for consideration one case only, and that perhaps the commonest of all—namely, the case of the individual who, apart from serious organic disease, finds

himself somewhat out of health, and desires to gain the maximum of advantage by his annual holiday of a month. Such persons may be dyspeptic or "nervous," complaints of want of appetite and disordered sleep being among the most frequent, or they may have some slight throat affection, or complain simply of "weakness," and unfitness for the ordinary routine of life. It is in such cases, in which experience usually proves the impotence of drugs, that change of air, scene, and habit works some of its most remarkable and beneficent results.

Some practitioners, impressed with the great benefit accruing from change of air, are disposed to regard the change itself as the one essential point, and exercise little care in repect of the locality to which their patients repair. In some cases this negligence may be harmless, but in others it is fruitful in mischief. The climates of sea, mountain, and plain differ too profoundly in their meteorological features and physiological action to be recommended indifferently, and a patient who benefits by one of these types of climate may be seriously injured by another. Take the case of insomnia, for example. In the milder cases any change may do good, but in the severer cases sea air and mountain air are often alike injurious. A quiet sheltered inland resort suits such cases best in the first instance, and as convalescence proceeds this may be advantageously exchanged for some more bracing resort, such as Buxton or Harrogate. We know of a patient who suffered from severe insomnia, and was advised to try Llandudno, where the stimulating sea air greatly aggravated his trouble. On removing to the quiet valley of Llanberis, under the shelter of Snowdon, he obtained immediate relief. This fact is the more worth bearing in mind, as in thoroughly healthy people sea air usually conduces to sound sleep.

As a general rule, neurotic patients of all kinds should be prohibited from resorting either to the seaside or to high elevations. Their symptoms are commonly aggravated by all stimulating climatic conditions, and they benefit most by sheltered inland resorts, either of the plain or some mountain valley. The sufferer from neuralgia comes under this rule. At the favourite health stations of the Riviera—Cannes, Nice, Mentone, San Remo, &c.,—it is a common experience to find neuralgia much aggravated on arrival, but speedily alleviated by removal inland.

The case of the dyspeptic deserves the most careful consideration both from its frequency and from the marked benefit which so often accrues from a well-planned holiday. Here, again, a distinction must be drawn between the slighter and the graver cases. The former may benefit by almost any change; the latter will be injured unless the change be wisely ordered. In serious cases of dyspepsia, especially if there be hepatic derangement, the seaside is inadmissible as a general rule, the best change being probably to such resorts as Ilkley or Crieff, where the air is bracing without being unduly stimulating. Dr. CLIFFORD ALLBUTT, in his well-known Gulstonian lectures upon Visceral Neuroses, states truly that a week or two of bracing upland air will restore to its normal condition a tongue which all our drugs—soda, gentian, podophyllin, and colchicum—may have failed to clean. Dr. ALLBUTT draws from this fact the conclusion that such cases are often pure neuroses. We must here, however, content ourselves with pointing out the great benefit derived from inland air of moderate elevation in cases which, for the present, we must still describe as "dyspeptic."

We have dwelt upon the disadvantages of sea air in certain cases, and we must strongly protest against the too common practice of the profession in ordering patients indiscriminately to the seaside; but the cases are not few or unimportant where sea air is one of the most potent remedies within our reach. It is excellent in struma, in rickets, in many cases of early consumption. It is an admirable tonic and restorative to many persons who are simply overworked and "out of tone." It is often the most efficient means of completing convalescence after acute disease, but in this case great care must be taken not to recommend it at too early a stage. Sea air is for *late*, not for *early*, convalescence. On the other hand, as already pointed out, sea air is often hurtful to neurotic and dyspeptic cases. It is also frequently injurious to sufferers from cutaneous maladies. We may give, for example, the case of a patient who for ten or twelve years has suffered intermittently from dry eczema of the fingers. The disease is kept perfectly in check by occasional doses of arsenic so long as the patient resides inland, but on the various occasions on which she has removed to the seaside for the sake of her family, the disease has never failed to make its reappearance. There is one fact in reference to sea air about which there can be little question, and which no doubt largely accounts for its popularity—namely, that while calling for careful discrimination in all cases of disease, it may be freely recommended to most persons in average health, with the assurance that it will probably make those better who are already well.

Mountain air finds one of its most important applications in the case of fagged brain-workers who retain a fair amount of energy and are free from much nervous irritability. To such it often acts as an excellent tonic and hypnotic, stimulating appetite and digestion, luring back sleep, and fulfilling the function of perfect remedy in a species of ailment which is particularly unresponsive to medicinal agents. The point of discrimination in such cases is the presence or absence of nervous irritability, its presence being a bar to the recommendation of high mountain air, and calling rather for some quiet inland resort of moderate or low elevation.

A type of person who may derive great benefit from his annual holiday month is the *bon viveur*, the man who habitually eats and drinks too much, who never walks a yard that he can help, and who is on the high-road to gout, Bright's disease, or fatty degenerations. It is for such persons that the plain diet, early hours, regulated exercise, and copious imbibitions of mineral waters of a well-regulated spa work a veritable miracle in a very brief space of time. It is hardly necessary now to insist that in such cases the matutinal, ante-prandial, and evening potations of mineralised water are only one, and probably not the most important, element in the cure. The vital point is that the *tout ensemble* of life and treatment at a good spa constitutes a most efficient remedial agent, and one which the profession as a whole would do well to recognise habitually as part of the ordinary machinery of practice, instead of according it a kind of half contemptuous tolerance. No doubt hydropathy has been,

and still is, in some measure allied with quackery, but we can accord it its just place and recognise its real utility, while protesting that its claim to be regarded as a complete system in itself is wholly invalid.

A few general considerations regarding the invalid's holiday may appropriately conclude this article. The place and time having been carefully chosen, attention should be directed to such questions as sight-seeing, exercise, diet, amusement, &c., which are all sure to engage largely the attention of the holiday maker, and on which medical advice may be of essential value. The lethargic individual must be encouraged to make his holiday a time of increased activity; the patient who habitually lives at too high pressure must be warned that his holiday will fail at all points if it fail to afford adequate opportunities for rest; the dyspeptic must be instructed how to guard against indiscretions in food without adopting a practice of modified starvation; the man of one idea, whose heart remains in his study or his consulting chamber, must be tempted to try some unwonted amusement or to essay the cultivation of some new hobby. It would be a serious error to regard such points as trivial and beneath the attention of the physician. On the contrary, they lie at the very root of successful holiday making, and no regard for the proper selection of locality will compensate for their neglect. A holiday misses one of its chief charms and most valuable uses if it does not rest the jaded mind, give fresh play for the sympathies and imagination, and rejuvenate the flagging interest in things outside the narrow groove of everyday life. This it is capable of doing. This it will do if its objects and methods are properly studied and correctly apprehended.

MR. FRANCIS GALTON, whose researches into family history for scientific purposes have already attracted much attention, has published in the *Fortnightly Review* for July an analysis of the returns he has received relating to temper. We differ from the author in his expressed opinion that the data relating to 1981 persons may be regarded as "an adequate number for many deductions;" but he has nevertheless done good service in drawing attention to the subject, and we cannot but look forward with great interest to the time when Mr. GALTON's further researches will enable people to answer definitely the two questions in regard to which he now speculates on for them. The first inquiry will be, Do good-tempered parents have, on the whole, good-tempered children? and, Do bad-tempered parents have bad-tempered ones? Mr. GALTON's answers to the first proposition are: "I have forty-three cases where both parents are recorded as good-tempered, and twenty-five where they were both bad-tempered. Out of the children of the former, 30 per cent. were good-tempered and 10 per cent. bad; out of the latter, 4 per cent. were good- and fifty-two per cent. bad-tempered. This," continues the author, "is emphatic testimony to the heredity of temper. I have worked out the other less contrasted combination of parental temper, but the results are hardly worth giving. There is also much variability in the proportion of the neutral cases." We do not for a moment suppose that any physiologist entertains the least possible doubt as to the fact that temper is hereditary. It cannot be otherwise. What is loosely called "temper" depends as directly upon and is in fact a property of the organism—not simply of the cerebrum but of the body as a whole—as tone and timbre are properties of a vocal apparatus or, indeed, of a lifeless musical instrument. Education, training, and collateral influences, of course, qualify the development of individuals as well as families, so that there may, and must, be "much variability" as to the results presented in special cases; but it is, nevertheless, a fact which cannot be questioned, that such general properties as temper are as distinctly hereditary as the organism is itself the outcome of transmitted specialities of material and development. This is admitted by all, even by those who are not prepared to go so far as most of us are compelled to go in the contention that those particular tendencies which culminate in modes of life and action are also hereditary and transmitted, the good or bad tree producing good or bad fruit according to its nature, and the seed which springs from it partaking of its essential character. Mr. GALTON is, doubtless, right in his conjecture as to the rule that good-tempered parents tend to produce good-tempered children, but there is very much more than he seems to take into account in the effect of modifying influences derived from, or exerted by, the respective families of the parents. The resultant of a combination of two forces is not one *plus* the other, but something differing from both and the outcome of the antagonism of contradiction not less than of the influence of affinities acting and reacting upon and from each. The second question in regard to which Mr. GALTON speculates is intended to be the converse of the first—namely, "Do good-tempered families of brothers and sisters have on the whole good-tempered ancestors, and bad-tempered families bad-tempered ones?" In reply to this he says:—"I have 46 good-tempered families, with an aggregate of 333 parents, uncles, and aunts; and 71 bad-tempered families, with 633 parents, uncles, and aunts. In the former group 26 per cent. were good-tempered and 18 bad, in the latter group 18 were good-tempered and 29 were bad, the remainder being neutral. These results," he adds, "are almost the exact counterparts of one another, so I seem to have made good hits in framing the definitions. More briefly, we may say that when the family is good-tempered, as above defined, the number of good-tempered parents, uncles, and aunts exceeds that of the bad-tempered in the proportion of 3 to 2, and that when the family is bad-tempered the proportions are exactly reversed." The general conclusions at which Mr. GALTON arrives are that "great range and variety of temper" are to be found "among persons of both sexes in the upper and middle classes of English society." On the whole, he thinks the women are a little better tempered than the men, but there is not much difference between the sexes in this respect, since about 45 men are recorded as good-tempered for every 55 who are bad, and, conversely, 55 women are good-tempered for 45 who are bad; and that there is a great admixture of good and bad varieties of temper in the same family, albeit temper is undoubtedly hereditary. "Also," Mr. GALTON concludes, "although it exerts an immense influence for good or ill on domestic happiness, it seems that good temper is not especially looked for, nor is ill temper especially shunned, in marriage selection." This last remark, with which the article ends, is another way of stating the familiar proposition that men and women are not drawn together by similarities but

rather by the attraction of opposites, as positives and negatives. However undesirable this may appear to be from an ethical or economic point of view, it is beyond question the law of natural selection.

IT is not a little strange that the great Temperance Movement, with its vast literature and the multifarious discussions to which it has given rise, has as yet made no notable contribution to the department of vital statistics. In some measure this is probably due to the circumstance that the effects of an excessive use of alcohol are so obvious and so obviously disastrous that no statistical presentation of them could possibly intensify their argumentative effect. It needs no tabular view of collected facts to prove that habitual drunkenness involves constitutional ruin. But total abstainers are by no means content nowadays to rest their case upon the admitted results of intemperance. It is an opinion devoutly held and widely diffused that the habitual use of alcohol, even in the most moderate quantity, is actually deleterious. The scientific grounds of this view are at present very incomplete, and the ascertained facts of a fragmentary and inconclusive character. It is here that a mortality table representing the experience of that large community which shuns alcohol would be particularly valuable. Not only does the subject furnish a battle-ground to moralists, but it is also of practical and pressing importance in a variety of ways. The almost universal practice of life assurance has given a direct pecuniary value to every circumstance of individual health or habits, which has any bearing upon the duration of human life, and thus the profession of abstinence has come to be an item in the purely commercial relations between the Life Assurance Companies and their assured. While in this and the like ways the question of the effect of alcohol upon human longevity has come to have a universal interest, it has received for some of the continental legislatures a singular and even painful importance at the present time. France, which used to enjoy an enviable reputation for temperance, has, within the past ten years, retrograded sadly in this respect. The number of shops for the sale of alcohol, in proportion to the numbers of the population, is almost half as large again in France as in England; that is to say, where there are seven such shops among ourselves there are ten in France. But it is not only in the quantity of alcohol consumed, but also in the kinds selected, that deterioration has been registered within the past decade, and it is stated on the authority of a Commission recently appointed by the Senate to inquire into this subject, that all the familiar consequences of alcoholism are terribly apparent in the French statistics of to-day. Belgium, again, would seem in some respects to be in even a worse plight than France. There the proportion of liquor shops is more than double that in France, and the consumption of alcohol has reached over two gallons and a half per head of the population, men, women, and children being all enumerated. Thus, the question of the influence of alcohol upon vitality has attained in various ways to a position of commanding interest and importance; and the Life Assurance companies, at least, must have at command much of the raw material out of which mortality tables are constructed. For example, one well-known company which cultivates business among total abstainers is accustomed in its annual report to give the expected and the actual mortality in the abstaining and general sections respectively into which it is divided. The last report states:—"Expected claims in the Temperance Section, 271; actual claims, 171. In the General Section 354 claims were expected; the actual claims were 337." These figures would appear to show that the total abstainers do enjoy a very pronounced advantage in point of longevity. But several considerations at once arise to cast doubt on the premisses. What becomes of members who pass out of the Temperance Section? Do they pass into the General Section? If so, it is plain that the favoured section must be relieved of a certain proportion of its burdens at the expense of the General Section, and there is some reason to believe that this is the case with the Society in point. Another circumstance that needs elucidation before any conclusion can be come to as to the significance of these figures is the age distribution through the two departments and the table by which they are tested. Thus it is plain that, in respect both of the consequences involved and the present sources of information, a strong case exists for investigation, and we hope that public spirit, or private interest, or both combined, will before long lead some competent persons to undertake the much-needed operation.

IN an article on "The Holiday Season" which appeared in our last number, we referred to the natural advantages enjoyed by many health resorts situated on our own coast, and included among the number the town of Margate, the climate of which is well known for its bracing qualities. It is this week our duty to speak of Margate in a different sense, and to show how, notwithstanding the benefits which nature has conferred upon her, the local sanitary authority have, by their negligence, rendered the place distinctly undesirable for occupation by those who are seeking to improve their health by change of locality. The condition of Margate will be best understood by the perusal of the report of Dr. DAVID PAGE, Medical Inspector of the Local Government Board, which that Board has just issued. The occasion of Dr. PAGE'S visit to Margate was the increasing mortality from typhoid fever in the borough. Margate has, indeed, for a number of years lost some of its inhabitants from "fever"—the deaths in each year from 1877 to 1885 numbering from one to six, which increased in 1886 to as many as nineteen. This rapid development of fever was necessarily viewed with alarm, and especially as the medical officer of health, Mr. KNIGHT TREVES, ascribed its spread to a probable pollution of the general water supply of the town.

Dr. PAGE says that the water supply of Margate is obtained from a well at Tivoli, on the south-west inland boundary of the town, sunk in the chalk to a depth of fifty-three feet, while an additional supply is derived from a well sunk in the Dane valley. The Tivoli well is that especially open to suspicion, being situated at the edge of a strip of grassy marsh land, which is traversed by a "foul stream, little else than a stagnant ditch," receiving at the lower part of its course drainage from various premises, including a steam laundry, stables, dung-hills, and an unknown number of cesspools behind Marine-

terrace. One danger to the well is from a possible back flow of this stream, a circumstance which had indeed been observed, and to check which some attempt had been made by the provision of a penstock; but this is not all, for Dr. PAGE remarks, "a populous neighbourhood entirely dependent upon drainage into cesspools is growing up in the vicinity of this well, and, incredible as the statement may read to those who know the dangers of contaminated water, I have to state that during the present year a row of a dozen houses has been built within seventy feet of the pumping well, the houses having no other means of excrement disposal than into separate cesspools sunk into the chalk for a depth of twenty feet." It is enough to say, in conclusion, on this point, that there is ground for suspicion that one of the adits of the well approaches to within a few feet of these premises.

If the fact that these cesspools were made with the consent of the Sanitary Authority were not sufficiently blameworthy, they have allowed numerous waterclosets to be supplied directly from the mains without the intervention of any cistern or service-box. Margate indeed is apparently expected to thrive under conditions which no active sanitary authority would tolerate, but this will be better understood when the sewerage of the town is considered. Such sewerage as exists is described as fragmentary, for few sewers exist, and the chief of these, owing to defects, becomes choked at times, leading to the flooding of basements and courts. For the majority of houses cesspools are provided—holes in the chalk, containing offensive matter, which the authority leave to be removed at the cost of the householder. Dr. PAGE tells how, rather than incur this expense, tenants will often leave their houses, or throw their slops out through their back doors in order to lessen the pressure on their pits. It is to these conditions that Dr. PAGE attributes the prevalence of typhoid fever.

Enough has been said to show that the condition of Margate is a standing danger to the inhabitants and to every visitor who goes there; the Town Council cannot plead they are without warning. In 1849 more than 120 persons died of cholera. In 1850 the sanitary condition of the town was condemned by the General Board of Health. As long ago as 1873, Dr. GWYNNE HARRIES of the Local Government Board reported that the medical practitioners of the place stated that fever, diarrhœa, and low types of disease were constantly present in the town, and that infants and visitors suffered most from these kinds of sickness. The registers of deaths themselves, he pointed out, afforded no satisfactory index of disease, "visitors sickening of any disease, the onset of which is gradual, return home as soon as they recognise its approach; dying at home of disease with which they were infected in such a town as this, their deaths fail to appear in evidence against it." In 1880 THE LANCET sent a commissioner to Margate, and as a result of his inspection we published an account of its sanitary state, which showed but little improvement had taken place since it was the subject of Dr. GWYNNE HARRIES' report. The town was then, as now, honeycombed with cesspools; such sewerage as existed was faulty to a degree. The water-supply was even then regarded as liable to contamination, and the high death-rate among children indicated the unhealthy conditions under which the inhabitants lived. These evils have still continued; yet Margate is allowed to offend in this manner, apparently trusting to the fact that the official reports of its own health officer are not sufficiently read by the large number of persons who desire to enjoy the fresh breezes which are to be found on this part of the coast.

We trust that the action of the Local Government Board in placing their report on sale, and in thus enabling every inhabitant and intending visitor to peruse it, will teach the town of Margate that there is no economy in neglecting to obey the most elementary teaching of sanitary science, and that the ultimate effect of the report will be to render Margate really worthy of her exceptional natural advantages.

Annotations.

"Ne quid nimis."

THE COLLEGE ELECTION.

THE result of the election of members for the Council of the Royal College of Surgeons is very interesting. Everyone will congratulate Mr. Hutchinson on the large number of votes (none being plumpers) which he received, while the comparatively small number of votes polled in favour of Sir Spencer Wells' re-election may be taken as an endorsement of what we felt it to be our duty to hint at last week—viz., that he should have made way for a younger man. Mr. Willett's success this year will more than compensate him for his unsuccessful candidature last year. His advent to the Council brings with it a man already well up in College matters, and one who has made himself acquainted with what is going on among the Fellows and Members outside the College. Mr. Willett has taken an active share in the proceedings of the Association of Fellows, and, unless we are greatly mistaken, he will strengthen that section of the Council which would unite the College and its constituents at large into a more homogeneous body than they are at present. A noticeable feature of the present election is the small number of voters—less than 200 having taken part in the election. It would thus appear that the exclusive privilege of voting, which the Council at present regard as one of the highest functions of the Fellowship, is not so very highly prized, or surely a greater number would have come forward to exercise it. Doubtless the Association of Members, in presenting their memorial, will point out this fact to the Lord President of the Council. It should be another argument in favour of widening the constituency, with a view to a more adequate representation in the Council of the various elements of the profession.

ADDITIONS TO THE HUNTERIAN MUSEUM.

FROM the annual report of the Conservator of the Hunterian Museum it appears that the additions to the pathological department during the last year number 121 specimens, besides teratological specimens and calculi. Among them is the complete articulated skeleton of a man affected with osteitis deformans. There is a large and valuable addition to the collection of drawings and photographs, by Mr. Jonathan Hutchinson, Mr. Oliver Pemberton, and the photographs accompanying the Jacksonian Prize Essay. Mr. F. Eve has prepared an appendix to the Pathological Catalogue; this contains descriptions of nearly 400 specimens, and completes the catalogue up to the present date. "The nucleus of a series of specimens for examination purposes has been formed." The revision of the whole series of specimens is completed. In the department of Comparative

Anatomy there have been received, amongst others, five skulls from the Hindu-Kush district of India, and new skeletons of birds; whilst the College has purchased a fine specimen of the egg of the Œpyornis maximus (or roc). Several dissections of important parts have been added. These, which are extremely good, keep up the high reputation of the College, and will be most useful to the student. Altogether the additions to the museum are quite as interesting and instructive as in former years, and will fully repay a visit.

SCARLET FEVER AND INSANITARY CONDITIONS.

ACCORDING to a report of a subcommittee of the Sheffield Health Committee, the sanitary condition of the village of Crookes deserves the attention of the corporation. Scarlet fever has been epidemic there, and the Sheffield authority have made inquiry into the possibility that the night-soil which is deposited in the neighbourhood is the cause of the outbreak. They have not come to this conclusion, but have found in the village abundant reason for the rapid spread of any infectious disease from house to house; and they comment in condemnatory terms on the want of proper drainage and the arrangements of middens and on the crowded cottages of the place, and say that the remedy lies in the improvement of sanitary matters in and about the cottages, in getting rid of the middens, in doing away with drains under houses and cesspools in the yard and close to inhabited houses, in providing means for disinfecting infected houses, and in the immediate removal of infected cases to the borough hospital. Until these suggestions are adopted they fear there can be no hope of arresting infectious disease in Crookes when it arises. Scarlet fever has also been prevalent at South Normanton, cases occurring in a house of one room, which was described as a filthy hovel and not fit for habitation; in this one room several persons lived, and the ventilation of the place was most imperfect. The sanitary authority have given instructions for the necessary measures to be taken under the Public Health Act.

THE CONTINUED DROUGHT.

THE absence of rain is causing serious inconvenience in all parts of the kingdom. On June 27th the Liverpool Water Committee had under consideration the report of their engineer, which stated that the total volume of water in store at Rivington had diminished in a fortnight by 232,000,000 gallons, a member of the committee pointing out that in one of the suburban districts, Blundellsands, the want of sufficient water had been very severely felt in consequence of the supply being cut off for some hours each day. In Wales several works are stopped for want of water, and it is feared that, should the drought continue, six thousand operatives will shortly be thrown out of work at Llanelly and the Rhondda Valley. In Swansea water is being searched for in streams and private wells, the town supply having failed. Attempts have been made to supplement the town supply by pumping from disused colliery workings, and, it is said, also from old wells closed years previously because their water was said to be undrinkable, and with the result that the 100,000 inhabitants of the town receive but one-third of the necessary supply. In Ireland the crops are suffering, and in some places it is stated the cattle are dying from heat and scarcity of water. In the north of England some rain has fallen, but more is urgently needed. The effects of the drought upon health will probably be seen later. The damage to crops and the failure of milk supplies will undoubtedly have its influence in promoting disease; whilst the necessity which has been found in many districts for obtaining water from improper sources will, it may be feared, lead to an increased prevalence of enteric fever. But one of the greatest benefits of rain is its power of cleansing the air and earth, and it may be anticipated that an increased diarrhœal death-rate will be found in those towns where this disease is usually prevalent in the summer. On the other hand, the heat of the weather is probably responsible in some part for the absence of small-pox. It is now two months since a single death from this disease was registered in the metropolitan district, and the cases that have occurred have been trifling in number. The effect of heavy rainfall at the conclusion of the drought will be watched with interest, for it may be expected that watercourses will be especially polluted at that time.

THE TREATMENT OF FIBROID TUMOURS BY ELECTRICITY.

FOR many years electricity has been used in the treatment of the diseases of women, and for the last twenty years various attempts have been made to render it valuable in the treatment of fibroid tumours. This has been tried in America, Germany, and France, in the last-named country more especially by Dr. Apostoli, who claims a degree of success not obtained by any other operator. He attributes his success to two facts—the method of operation and the strength of the current. He introduces one pole into the cavity of the uterus when possible; failing this, he forces it into the substance of the tumour, the other pole he places on the abdomen of the patient. The strength of the current employed by Apostoli is much greater than that which has been hitherto employed by others, and he prevents cauterisation of the skin of the abdomen by the use of an electrode of large area made of a material of low conducting power. The uterine pole is used to cauterise and to cause absorption. Absorption is said to be brought about by electro-chemical action upon the tissues of the tumour, contraction and lessening of the blood supply, and coagulation. The means employed are said to be safe, comparatively painless, and successful in the hands of Apostoli. It is as yet too soon to form a definite judgment upon the method, for in other hands it has often failed, has caused serious illness, and even proved fatal. At the same time it cannot be questioned that in certain cases it has proved of great service. It has been followed by diminution of the hæmorrhage and improvement in the general health, diminution in the size of the uterus, and early menopause. Should it prove to possess half the advantages which are claimed for it, it will be a great addition to our present methods of treating fibroid tumours of the uterus.

POOR LAW ADMINISTRATION.

INQUIRY has just been made by an inspector of the Local Government Board into the circumstances attending the suspension by the Brighton Board of Guardians of one of their district medical officers. It is difficult to read the evidence, which is published *in extenso* in the *Sussex Daily News*, without a feeling of astonishment that the time of a Local Government Board inspector, of the Board of Guardians, and of a number of other persons, should be wasted by an examination into complaints as frivolous in character as could be brought against any public officer. The medical officer's manner had, it seems, been displeasing to certain persons, and, as a result, six so-called charges were deemed worthy of investigation. There is no point in the whole inquiry that is of any public interest, the gravest accusation being that of irritability of temper. A large number of the well-known members of the medical profession in Brighton gave evidence in favour of the medical officer, and bore witness to his professional ability, his courtesy to those about him, and his kindness to his patients, and the conclusion of the case is sufficiently

obvious. The only lesson which can be learnt from the whole case is the necessity for medical men who are not possessed of the most perfectly even tempers to avoid poor-law practice.

THE ADDRESS IN MEDICINE AT THE AMERICAN MEDICAL ASSOCIATION.

DR. JOHN S. LYNCH of Baltimore, in his capacity of President of the Section of Practice of Medicine at the recent meeting at Chicago, glanced at several recent discoveries, "or pretended discoveries," in therapeutics. His address did not profess to be exhaustive, but there was a free expression of personal experience and opinion on current subjects which has its value to a practical audience. He extolled antipyretics: "As I grow older and my experience enlarges, I become more and more convinced that fever is the lethal agent which destroys life in almost every disease in which that functional derangement is present." Hence his praise of antipyretic remedies, amongst which he yielded the palm to antipyrin as very soluble in water, and rarely exciting nausea. Since beginning to use it in November, 1884, he has not seen a single person die of enteric fever, scarlatina, or measles, only one of croupous pneumonia (seen too late); and the duration of life in phthisis, he thinks, is very nearly doubled by it. Of course, this is a very imperfect statement. We should require to know how many cases of such diseases Dr. Lynch has seen. "The dose should be about one gramme, repeated at first every hour until three doses have been taken, and afterwards every three or four hours." On the subject of cardiac stimulants, he reports that he has not experienced the valuable properties attributed to strophanthus, and says it is hardly possible that we shall ever find a better remedy for all cardiac lesions than digitalis, which combines the two valuable properties of energising the heart and stimulating the action of the kidneys at the same time. On the momentous subject of phthisis, which disease is probably more fatal to the human race than war, pestilence, and famine combined, he was rather severe on Koch's bacillus, and still more so on Bergeon's treatment of it. He did not deny that the bacillus existed and was a factor in the case; but he attached far greater importance to hygienic conditions as both more powerful and more controllable. After having given Bergeon's treatment a fair trial, he had nothing to say in its favour. He gave two instructive cases—both men—to show that one may carry a caseous mass in the lungs for years, and yet, with great attention to hygienic surroundings, enjoy good health, or even attain a fair longevity.

DIAPHRAGMATIC HERNIA.

A COACHMAN, aged thirty-seven, was admitted into St. Thomas's Hospital, under the care of Dr. Ord, on July 7th, with symptoms of intestinal obstruction. He was conscious, but intensely collapsed; temperature 98°; pulse 136; abdomen greatly distended, especially in the region of the transverse colon, and perfectly motionless, over-resonant, and rigid. He died in the afternoon in a delirious condition. At the post-mortem examination, there were signs of old pleurisy on the left side; whilst through the left side of the diaphragm projected a portion of the splenic flexure of the colon, with a piece of omentum. The adhesions round the neck of this hernia were firm and old. The large intestine above this hernia was distended, below collapsed. He had first complained of a sudden twisting abdominal pain whilst lying on the grass on July 1st. Vomiting commenced next day, rapidly becoming offensive. He was stated to have been a healthy man, having never been troubled with constipation for more than two days. Had drunk freely.

ALBERT VON KÜLLIKER.

SELDOM have honours been more worthily bestowed than on the great Würzburg anatomist and teacher, who on Wednesday, the 6th inst., reached his seventieth birthday and the fortieth anniversary of his academic work. Preparations had for some time been on foot for the celebration, and the University authorities and the Burschenschaft combined to make it a brilliant success. In the forenoon of the day the *Jubilar* (as the Germans call him) received the congratulations of the rector and the Senatus, and his former and present pupils thereafter tendered him a magnificently bound collection of scientific works, in testimony of their gratitude and goodwill; while illuminated addresses, on the part of the medical faculty and of the Medico-Physical Society (founded by himself forty years ago, and of which he is permanent honorary president), were also presented to him in terms of cordial greeting. The Medico-Physical Society of Erlangen, followed by a distinguished succession of anatomists from Germany and nearly every European country, and, lastly, by civic functionaries of every degree, waited on him to offer their salutations. Telegrams and letters also came in at short intervals all through the day in testimony of the affectionate goodwill of their signatories. Professor von Kölliker was deeply moved and gratified by the whole demonstration, so varied and so significant in its expression. In the evening a great banquet in his honour was held in the Hotel Schwan, and among the company were the Senatus Academicus, the leading members of the medical profession, the Fellows of the Medico-Physical Society, and a numerous representation of students and friends. Toasts and speeches, grave and gay, sped the hours delightfully, and far on in the night the guest of the day was serenaded by the Vocal Union and honoured with a torchlight procession by the students. On the 7th a special entertainment was given by the Burschenschaft to their veteran teacher in the Platz'schen Garten; and on Friday the 8th the Professor invited all his old students, friends, and colleagues to a *Frühschoppen* in the Julius-spital Pavillon. Throughout the three days' proceedings the reciprocity of good feeling was equally honourable to guest and to entertainers, and will long be remembered among the social annals of the University of Würzburg.

THE CLEANSING OF PUBLIC PONDS.

THE continued hot weather, as might be expected, is bringing into prominence various weak points in the machinery of sanitary administration. Among other matters, attention has been recently directed to the impure condition of the ponds in Victoria Park, which, like other pieces of artificial water in the metropolis, are regularly frequented by bathers, and in which, owing it is said to some leakage, the water has not been changed of late so thoroughly as it ought to be. A part of the consequent pollution is no doubt attributable to the custom of bathing, but this is no reason why that custom should be discontinued. Especially in such a season as this, it is most necessary that every due and possible provision should be made for the cleansing of those members of the community to whom a morning bath in their own crowded homes is an impossible luxury. The ponds referred to are for this purpose invaluable to many a poor but cleanly-disposed Londoner, and it would certainly be unfair to deprive any one such of his time-honoured right of immersion, simply because he leaves the water a cleaner man than he entered it. The state of the ponds, however, calls for a remedy. The leak we have mentioned is to be amended as soon as possible; but it has been questioned, with some reason, whether, though it be made good, the gradual renewal of the water in the ponds once a day, as now arranged, is sufficient to ensure their

purity. Natural lakes, it is true, are self-purifying on the same principle, while much if not all the refuse which enters them and sinks to the bottom is used up as food for water-plants, fish, and other aquatic animals. It may be doubted, however, if the smaller of these ponds could be so easily cleansed if they were commonly used as bathing-places, and certainly some of their kind in London parks are neither so extensive nor so fully stocked with water plants and the like as to enable them to dispense with the occasional services of the scavenger.

THE "UNIVERSITY COLLEGE GAZETTE."

THE issue of this magazine for the 11th inst. is an illustrated one, intended especially for the use of medical students. It contains excellent illustrations of the Yates ward, the hospital, the college, anatomical and pathological museum, library, Flaxman gallery, Wakley Convalescent Home, &c., and, under the head of "Past Worthies," includes an interesting though brief account of the career of James Wakley, M.D., the late Editor of this journal, whose portrait, and that of the late Dr. Wilson Fox, are by no means the least meritorious of the illustrations. Alluding to the Wakley Convalescent Home, with grounds of eight acres, at Longcross, bequeathed, together with a sum of money in aid of its maintenance, by the late head of our editorial staff, to University College Hospital, the *Gazette* states that the Home will be opened shortly for the reception of nine adults and two children, all of the male sex. This limitation as to sex is necessitated by the present arrangement of the house, but it is hoped that before long it may be possible to enlarge the Home, and so get over this difficulty.

CARL VOGT.

FROM Geneva a correspondent writes: "Medicine was conspicuously represented on the evening of Wednesday, the 6th inst., when the grand hall of the University was filled with a gay and distinguished audience to celebrate the jubilee of the Professor of Natural History and Geology. Carl Vogt is now seventy years of age, and forty of these have been spent in the Geneva school, which his scientific and teaching powers have done so much to make famous. The academic orator on the occasion was M. Pronier, a student in medicine, and very happily did he acquit himself of the task of conveying to the veteran *savant* the gratitude of the younger members of the school for the advantages they had reaped from his able and inspiriting prælections. A beautifully designed and executed set of mantelpiece ornaments in bronze was then tendered to Professor Vogt as the special gift of his pupils. Then, in the name of the Senatus Academicus, the rector, M. Pierre Vaucher, congratulated their septuagenarian colleague on a longevity which afforded every prospect of being extended, to the signal benefit of the University of which he had for forty years been so great an ornament. This address was also followed by a special gift—an album containing photographs of all Dr. Vogt's brother professors, including some who had already passed away. Then the Minister of Public Instruction, M. Carteret, concluded the proceedings by a succinct and effective account of Carl Vogt's career, and congratulated him, as the author of the 'Zoologische Briefe,' on having won the ear of the non-academic world for discussions of purely scientific interest. Professor Vogt replied, not without emotion, and in admirable taste. He told his audience that till well on in life he had been divided between the rival claims of two favourites, Science and Politics, and though science had gained the day, he never regretted, as a citizen and even as a *savant*, the attentions he had from time to time paid to her more bustling sister. Under the inspiration of the latter he had worked for liberty, as under that of the former he was still working for enlightenment. As a teacher it had been his special care not to burden his pupils with facts, but rather to show them the cosmic relations of these, and how they ought to be taken up and handled. Success in science, as in every other intellectual walk, would wait on those who pursued it with all the might at their command. To his masters, Liebig and Valentin, the great chemist and the great physiologist, he owed whatever special training he had brought to his academic work—work which had been materially aided by the civic authorities, and reinforced by his brother professors. Under such support the University of Geneva would improve on her past record, brilliant as that had been. After the guest of the evening had resumed his seat, amid rounds of applause, an adjournment was made to the Brasserie Rohrer at Plainpalais, and there, till a late, or rather an early, hour, under the genial presidency of Professor Gosse, Dean of the Faculty of Medicine, the proceedings took a less formal and much more lively turn—toast and song alternating, with intervals of pleasant general conversation between. Master, pupil, municipal authority, and plain citizen, to the number of about 300, renewed their congratulations to their guest, who once more made his acknowledgments the occasion of happy reminiscence and kindly counsel."

THE INFLUENCE OF SEX IN HEALTH AND DISEASE.

IN the *Australian Medical Journal* for April 15th, 1887, Dr. Jamieson discusses this complicated question within the narrow limits of an introductory lecture. His argument is, briefly stated, that women are more highly organised than men, as proved, not only by moral superiority, but also by intuitive perception, superior grace of form, relative absence of abnormalities, relative absence of idiocy, higher vitality, and comparative immunity from various diseases. We confess that the author has failed to convince us, and that the facts are better explained, in our opinion, by more "brutal" and less transcendental considerations: moral superiority (which is capable of debate), by comparative seclusion from the struggle for existence and its temptations; intuitive perception, by the very absence of the habit of minute reasoning; superior grace of form, partly by sexual selection, but partly by arrest of development; relative absence of abnormalities is not true of *all* abnormalities; relative absence of idiocy, by smaller heads at birth. The question of comparative probability of living at different ages has been many times debated, and seems to depend mainly on greater evolution of the nervous system, and the burden of life in males, and parturition in females. The article is well written, and we do not forget the maxim: "*Audi alteram partem.*"

FRUIT IN SUMMER.

IN spite of the cold winds which prevailed during April and May, the fruit crop thus far has been fairly abundant, and we are not without signs of a moderate rainfall, which ought to ensure for the season at least an average yield. That this is in itself a fortunate circumstance it is needless to assert, and yet it surely implies along with much advantage a considerable risk to the public health. Let it not be thought that we seek to disparage the value of fruit as an article of diet. If ripe and sound, there is every reason why the great majority of people should partake of it freely. Though persons of markedly gouty or rheumatic temperament require to be somewhat sparing in its use, and others with a dysenteric tendency much more so, while diabetics must regard it, in most of its forms, as a forbidden dainty; still its general utility as a stimulant of digestion, a light food, and an aid to the regular action of the bowel, are beyond question. In order to reap the full benefit of its use,

however, one or two facts must be kept in view. We must remember that much depends upon its kind and everything upon its quality. Thus the helpful stimulation afforded to the mucous membrane of the stomach by subacid fruits may be turned to good account when the appetite is jaded, as in some atonic cases of dyspepsia. The same slight acidity is valuable in cases of chronic constipation, and acts partly by its chemical attraction for the intestinal juice and partly as a stimulant of intestinal contraction. Other kinds of fruit, again—such as the banana, which abounds in starch—have a distinct nutritive value. The same is true of nuts, in virtue of the albumen, fat, and starch which they contain, but here the question of digestibility comes in, and it cannot be said to have found in the case of man a completely satisfactory solution. As regards quality, the cardinal properties of ripeness and soundness cannot be too strongly insisted on. Fruit which is still unripe is practically a chemical irritant, and in its degree a poison. That which is passing the stage of ripeness is likewise an irritant, and owes its effects to the chemical products of decay or the germ poison of putrefaction. The question of the treatment of such effects need not now occupy us, but enough has been said to remind our readers that some degree of care is needful to enable them to enjoy the produce of the fruit harvest, and that with due care they have nothing to fear.

THE MIDDLESEX HOSPITAL.

WE are pleased to be able to state that the performance of the "Golden Legend," conducted by the composer, Sir A Sullivan, at the Albert Hall on the 13th inst., on behalf of the above institution, was very successful from every point of view. As a musical treat it certainly left nothing to be desired. The singing of Madame Albani was, as usual, superb, and she was most ably supported by Madame Patey, Mr. Edward Lloyd, and Signor Foli. We understand that Sir A. Sullivan had nothing but praise to bestow upon the efforts of the band and orchestra. Dr. Stainer ably presided at the organ. Owing to the garden party at Hatfield, Her Majesty and many of the Royal Family were unable to be present, but his Royal and Imperial Highness the Crown Prince of Germany, who honoured the performance with his presence, evinced the keenest interest throughout, and afterwards expressed his pleasure at having been present on the occasion. We hear that, after all expenses are paid, a considerable sum will be paid over to the hospital exchequer.

THE MUD BATH TREATMENT IN THE CRIMEA.

DR. PHILIPOVICH, who has for many seasons been in the habit of employing the Crimean mud baths in the treatment of patients suffering from various kinds of affections, has just published an article on the subject in the *Russkaya Meditsina*, in which he gives notes of several cases of an interesting nature. His general opinion is that the mud baths may safely be employed in the case of weak anæmic subjects with as much advantage as in those of a robust habit. He does not consider tabes dorsalis a bar to their use, some cases of the kind while in the earlier stages having been very much benefited by this treatment, the nutrition having been improved and the pains decreased. Cardiac patients may be ordered mud baths, but care should be taken that the temperature is not too high, and that the duration of the baths is not too prolonged. In syphilitic cases mercurial inunctions may advantageously be ordered simultaneously with the course of baths; and under these circumstances Dr. Philipovich finds that a far smaller quantity of the mercurial is required than when the inunctions are not combined with mud baths. He has remarked that although the treatment usually shows its effects at the time, there are some cases in which no improvement is apparent for some weeks afterwards, when, perhaps, the patient getting disgusted with the failure of medical men to relieve his sufferings, has betaken himself to quack remedies, which then not unnaturally come in for the credit of having effected what scientific medicine was powerless to do. The classes of cases in which these mud baths are mainly employed are those of rheumatic and rheumatoid pains, neuralgias and syphilis. The results in the case of rheumatic affections seem to have been most encouraging, as out of forty-six such cases thirty-seven are stated to have been completely cured, or, at all events, entirely relieved from pain, while only nine failed to obtain any marked benefit. Of five cases of sciatica three were more or less nearly cured. Of three cases of migraine one was greatly benefited, one slightly so, and the third not at all. Fifteen cases of debility, consequent on serious diseases, came under treatment; of these ten received marked benefit. There were fifteen syphilitic cases; here mercurial treatment was invariably combined with the baths, and very satisfactory results, as a rule, obtained.

SCARLET FEVER IN SCHOOLS.

A FEW cases of scarlatina having occurred among the boys at Christ's Hospital, the warden of that school has written to the boys' parents giving them the opportunity of removing their sons should they think fit, but not recommending the dispersion of the school. The disease is, the letter states, of a mild type, and none of the patients have presented any serious symptom. The action of the school authorities is in every sense of the word a proper one. It states the facts exactly and without any concealment, and leaves each parent to do what he thinks best in his boy's interest. Probably the majority will desire to leave their children where they are, especially if they have other children at home who have not already suffered from scarlet fever. The letter rightly calls attention to the danger of placing boys returning from school under these circumstances with susceptible persons, and mentions the period of time during which each pupil after leaving school should be regarded with suspicion. Christ's Hospital has set an excellent example to other similar institutions.

A BLUNDER AT LIVERPOOL.

WE had hoped that, with the action which is now being taken in Liverpool to provide two non-pauper fever hospitals, the era of mismanagement with respect to infectious diseases was coming to an end; but a resolution which has just been passed by the Hospitals Committee, to the effect that patients are to be charged two guineas, one guinea, or ten shillings a week, coupled as this is with a reminder of the compulsory powers as to repayment under Section 132 of the Public Health Act, constitutes a blunder of the greatest magnitude. If repayment is deemed desirable in certain cases in order to satisfy the consciences of those who enter the hospital, the announcement should have been made just in the opposite way to that in which it has been done. In the first place, the public should have been informed that, since the hospital has been provided and will be maintained for public purposes at the cost of the public, the public will have the right of entry to their own hospital free of cost; and this the more so because everyone who enters will, by removing from amongst the community a source of danger, be conferring a benefit on his or her fellows, and all such persons should be received into the ordinary wards and receive the ordinary fare free of cost to themselves or to their friends. Every other plan always has failed and must still fail. Indeed, there are many hospitals the expense of building which has been a mere waste of public money, because sanitary authorities, having first spent the rates to

the extent of some thousands in making hospital provision, have next deterred the sick from entering by wanting to get back a few paltry pounds from those availing themselves of the public provision which has been made. We therefore sincerely hope that Liverpool will rescind this unfortunate resolution, and so remove the greatest hindrance to the proper protection of the public by means of isolation in hospital. There will always remain a certain number of people who will wish to have private rooms and superior accommodation. This should always be paid for; and we understand that, even whilst charging a minimum of three guineas a week, the authorities of the London Fever Hospital cannot meet the demand made upon them for this class of accommodation. But a charge of this sort is a very different thing from a hint at a charge upon the occupants of ordinary wards. True, all authorities say they intend to remit the fee if the patients are poor; but this does not meet the case. It is when the disease is first heard of that there must be an absence of all hindrances if speedy isolation is aimed at, and this can only be effected by making a hospital which belongs to the public free to the public.

CHOLERA IN ITALY.

As we surmised last week, the outbreak of cholera at Rocella, in Calabria, doubtless had its origin by conveyance from the neighbouring island of Sardinia. The cholera rumours of the past week are numerous, and amongst them is a statement to the effect that Catania, on the eastern coast of Sicily, and which was affected in March last, remains the centre of the epidemic. According to one report, there have been two hundred cases in Catania, a hundred and forty proving fatal, and the garrison being severely affected. The disease has also appeared at Caltanisetta and Messina, but only to a trivial extent. At Rocella cases continue to occur. From Paris comes also a report of cases in the island of Sardinia, but Cagliari remains free as yet. The occurrence of cholera in Sicily has led to a large influx of people into Naples, and the authorities there feel that since they are only at the beginning of their sanitary reform, this immigration is by no means unattended with risk.

ELECTRIC LIGHTING ON RAILWAYS.

IN reference to an annotation on this subject which appeared in a recent issue, we are informed that the London, Brighton, and South Coast Railway Company have already ten trains lighted by electricity, and a proposal is now under consideration for lighting the whole of the trains in this manner. The first two trains were tried and tested in every way for two years, and it was the great success of these trains which led to the late extension of the system. The Brighton company has received an offer from the company which holds the patent to light every train and carriage on the line for the same cost as that entailed by the old imperfect oil-lamps, so that the objection of expense is now at an end. The trains, it appears, are popular, and the light is so great a convenience to the passengers that it is to be hoped we shall speedily see the general adoption of so beneficial a system.

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:— Don F. Benjumeda, Professor of Clinical Surgery in the Faculty of Medicine of Cadiz, and well known in Spain as a brilliant operator, especially in stone cases. He was seventy-two years of age, and had held his professorship forty-three years. — Dr. Victor Adolf Richter, Ordinator of the Alexander Hospital, St. Petersburg, at the age of sixty-nine.

THE HEALTH OF THE CROWN PRINCE.

HAPPILY there is little to report of the Crown Prince, in whose health the people of this country take so deep an interest, and what little there is is all in the right direction. His Royal Highness's voice, which a week ago was rather hoarse, has now become clear and almost normal in tone, and the condition of the larynx, to all appearance, continues quite satisfactory. The double indication of healthy appearance and returning normal function in the vocal cords is a matter of sincere gratification to all concerned. There is no foundation for the rumour of the Crown Prince's intention to go to Cauterets; such a proposal has never been entertained. We print elsewhere a translation of Professor Virchow's report on the nature of the portion of the laryngeal growth last removed by Dr. Mackenzie.

PROPOSED CHANGE IN FRENCH PROVINCIAL MEDICAL SCHOOLS.

THE provincial medical schools in France are to be shorn of their accessory professorships—that is to say, of their chairs of physics, chemistry, and natural history, the instruction in these subjects being intended to pass entirely into the hands of the professors of the faculties of science. The change is not to be made in a sudden manner, but gradually, the chairs as they fall vacant not being filled up. The proposed change is meeting with a chorus of disapproval from the provincial schools, whose members do not at all relish the idea of such a curtailment of their respective staffs from mere motives of economy. They say that the science required by medical students, as well as by pharmaceutical students, who in many of the schools are taught with them, is different both in kind and in extent from that required by those whose profession is to be purely scientific, and who are preparing for the higher degrees of doctor or licentiate in science, and that if this change is carried out either the medical or the science students, or both, must necessarily suffer. Again, it is pointed out that it is most inopportune, at a time when medicine is every day becoming more scientific, to crush several centres of medico-scientific research, which are constantly yielding good fruit.

THE JAMAICA MEDICAL SERVICE.

THE Government of Jamaica have passed a law compulsorily fixing the scale of fees for medical men in the Government service. We do not know what this scale may be, nor do we know whether any special reason was urged on behalf of this act of legislation, but certainly it requires justification. No doubt it is well that there should be some agreement as to what is proper remuneration for medical service under different circumstances, and the profession in Jamaica might conveniently follow the example of the Manchester Medico-Ethical Association in adopting a scale which would guide them on this point, but such a course is very different from the enforcement by Government of a tariff which is not fixed by the profession. We would strongly recommend all medical men proposing to enter the Government service of Jamaica to consider the position in which they will be placed in regard to their practice.

RURAL ISLE OF WIGHT.

WE are glad to see that the *Morning Post* has added one to the many warnings we have given as to the dangers to health which are so abundant in the rural area of the Isle of Wight. We have on several occasions pointed to the persistent neglect of the rural sanitary authority to act on the advice either of their own health adviser or of the staff of the Local Government Board. For six years little or nothing has been done to mend matters; polluted water, absence

of drains, and prevailing nuisances still remain; and the rural sanitary authority were recently selected in a Government blue-book as a type of inefficiency and mal-administration. Our contemporary indicates that the money aspect of the question may come to be the most potent, when visitors learn where conditions inimical to health abound. Some of the towns in the island,—such as Ryde, Ventnor, and Shanklin—have taken some action. Even West Cowes, with its sad need for drainage, its bad bye-laws, and crowding of houses, has done something. But there are so many parts of the island which should be avoided, that we would counsel any who are intending to visit it to get the report of the Medical Officer of the Local Government Board on cholera measures, which was issued last year, and from that volume to find out where they may go with safety.

FOREIGN UNIVERSITY INTELLIGENCE.

Gottingen—Professor Wolfhugel has been appointed an extraordinary member of the Sanitary Board.

Havana.—A laboratory for bacteriological research and for Pasteur's anti-hydrophobia treatment has just been established.

Leipsig.—Professor de Bary, who had been invited to come to Leipsig, has decided to remain at Strassburg.

Marburg.—The name of Professor Gasser of Berne is mentioned in connexion with the vacant chair of the late Professor Lieberkuhn. Professor Nasse has just celebrated his eightieth birthday.

THE Council of the Recreative Evening Schools' Association have resolved to carry on their work in the ensuing winter on an extended scale, and to enable them to do this successfully an appeal for personal help has been sent to all the centres of scientific training in London. The services of at least fifty volunteer teachers are required, and we may express the opinion that to many scientific students the experience in teaching thus gained would be valuable. The work done by the Association is most excellent, and one deserving of every encouragement. Any information will be supplied by the secretary, J. E. Flower, M.A., at the offices of the Association, 37, Norfolk-street, Strand, W.C.

IN reference to the announcement made in our last issue respecting the post of obstetric physician at St. Thomas's Hospital, we may state that the resignation of Dr. Gervis does not take effect until October next. He will then have served the hospital for twenty-eight years—sixteen years as assistant-physician and twelve as full physician. His retirement is due to the pressure of his private engagements, and from a desire not to prolong his connexion with the hospital beyond the time when he can serve it with unimpaired health and energy.

THE following summary of the degrees conferred at the University of Cambridge during the academical year 1886-87 has been published:—Doctors in Divinity, *jure dignitatis*, 2; Doctors of Law, 2; Doctors of Medicine, 8; Doctors in Letters and Science, 7; Doctors of Music, 2; Bachelor in Divinity, 1; Masters of Arts, 351; Masters of Law, 27; Master of Surgery, 1; Bachelors of Medicine, 49; Bachelors of Surgery, 23; Bachelors of Music, 6; Bachelors of Arts, 577; Bachelors of Law, 36. The honorary degrees conferred were LL.D., 6; Litt.D. & Sc.D., 3.

WE regret to learn that a severe outbreak of typhoid fever is prevailing at Warrington. As yet the cause is somewhat uncertain, but it is locally held to be due to defective conditions of drainage.

TWO of the members of No. 6 Company (Wolverhampton) in the 1st Bucks Rifle Volunteer Corps are suffering from typhoid fever, attributed by Dr. Symington to drinking water out of a horse-trough at Slough on the 22nd ult., when the Volunteers went to form a guard of honour to Her Majesty. It is hardly expected that either of the sufferers will recover.

THOSE of our readers who are interested in anthropology will be glad to learn that the General Congress of German Anthropologists meets at Nürnberg from the 8th to the 12th August. The picturesque city, full of varied interest, will be *en fête* for the occasion, and the organising committee have arranged excursions, to which ladies will be specially invited.

AMONG the classes at the third annual International Photographic Exhibition which is to be held in October, we notice that one, Class XII., is open to members of the medical and other learned professions for clinical studies, microphotographs, photo-micrographs, natural history specimens, &c.

NOTE ON

RECENT FRENCH LIVER LITERATURE.

BY GEORGE HARLEY, M.D., F.R.S.,
EX-PROFESSOR IN UNIVERSITY COLLEGE, LONDON.

WHILE within the last decade English medical literature has teemed with all kinds of books—originals and compilations—on diseases of the liver, the continental press has issued but very few general treatises on that organ, though many special papers on hepatic subjects have appeared in its periodicals. It was therefore with some degree of curiosity that I sat down to read the 880-paged volume which has just emanated from the pen of Dr. Cyr,[1] the curiosity being materially enhanced by my knowledge of the fact that he may justly be regarded as a representative French writer on hepatic affections, seeing that he has already published separate monographs on Cirrhosis, Biliary colic, the Periodicity of Hepatic Symptoms, as well as an admirable little book on Calculous Affections of the Liver. Not unnaturally, therefore, I was led to expect that in this general treatise of his I should find at one and the same time a clear and concise epitome of all the recent French literature on liver disease—a hopeful expectation in which I have assuredly been in noway disappointed. Such being the case, I shall now briefly place before the readers of THE LANCET some of the more important of the gleanings from Dr. Cyr's volume. It is perhaps all the more advisable to do so, seeing that many English practitioners entertain the idea that, as severe liver diseases are much more frequently met with in this country than on the European continent, they have but little to learn from the writings of their continental *confrères* on hepatic affections. This idea is, however, erroneous; for though it is an undoubted fact that from the widespread existence of our great national vice—an over-indulgence in the use of alcoholic stimulants,—as well as our close Imperial connexion with the tropics, the medical practitioners of Greater Britain see, as a rule, far more examples of liver diseases having an inflammatory origin, and consequently also a much greater number of the secondary forms of hepatic affections springing from them—to wit, abscesses, chronic atrophies, cirrhotic ascites, &c.—than other European practitioners, it is, nevertheless, the fact that our continental *confrères* have, probably, even more opportunities of both studying and treating the very large group of liver diseases generally included under the heading "constitutional." Such, for example, as all the varied forms of syphilitic liver affections, as well as the tuberculous, cancerous, amyloid, and other kinds of hepatic tissue degenerations. Consequently, in a systematic treatise on liver diseases like the one now being considered, we

[1] Traité Pratique des Maladies du Foie. Par J. Cyr, Médecin Inspecteur adjoint des Eaux de Vichy. Baillière et Fils. Paris, 1887.

cannot fail to learn many things that are not alone novel, but likewise many things that are useful in a practical point of view.

With these preliminary observations, I now proceed to give a sketch of Dr. Cyr's opinions. The first sixty pages of his book need not detain us, as they are entirely devoted to the anatomy and physiology of the liver, with which I presume all my readers are sufficiently well acquainted to admit me at once to pass on to the practical part of the volume, which commences with an interesting chapter on the symptomatology and diagnosis of hepatic affections in general. In this chapter Dr. Cyr wisely, I think, impresses strongly upon the reader that a jaundiced tint of the skin is by no means necessary to prove the existence of a grave, or even of an incurable, form of liver disease; for, as he says, jaundice may not only be totally absent in the case of hydatids as well as of abscesses, destroying almost the whole of the normal hepatic tissues, but a yellow tint of the skin may be almost equally conspicuous by its entire absence in rapidly fatal forms of malignant liver disease. In fact, his independent observations entirely confirm the opinions I published some years ago, derived from a careful comparison of hospital statistics, which strikingly pointed out the up till then unappreciated fact that ninety-four out of every hundred fatal cases of hepatic cancer are unaccompanied by any distinctly icteric tint, either of the skin or conjunctivæ. Jaundice therefore, contrary to the popular and generally entertained opinion, though a frequent, cannot in any case be regarded as an essential symptom of grave liver disease.

In the chapter on hepatic abscesses I find enumerated the following differential signs in order to facilitate the diagnosis of the exact seat of the suppuration: (Firstly) When the abscess is located in the front convex part of the liver, he says that there is dyspnœa, in addition to marked pain, radiating towards the chest and shoulder, while there is only exceptionally any jaundice present; whereas, when (secondly) the suppuration is limited to the central part of the organ, there is more or less absence of local symptoms, both of the liver itself and neighbouring organs—pleura, lung, stomach, and intestines,—but decided jaundice when the abscess is large. While, again, if the suppuration be limited to the under concave surface, there is (thirdly) an entire absence of all thoracic symptoms, with, at the same time, marked stomachic troubles in the shape of uncontrollable vomiting, more especially when the lobe of Spigelius happens to be the seat of the abscess. The direction of the pain in this case, too, is different; for instead of its radiating up towards the shoulder, it radiates downwards in the direction of the groin.

Dr. Cyr likewise gives an interesting table of statistics of 563 cases of abscess of the liver, collected from various sources, showing the relative frequency of their different modes of termination, the calculated results being as follows:—In 55 per cent. the patient died without the abscess either having burst or been opened; 14·9 per cent. were opened by operation; 10·5 per cent. spontaneously burst into the lung, 7 per cent. into the peritoneum, 5·5 per cent. into the pleura, 1·9 per cent. into the colon, 1·6 per cent. into the stomach and duodenum, and 0·7 per cent. into the bile ducts; while in the whole 563, three opened into the vena cava, two into the pelvis of the kidney, and one into the pericardium.

On the subject of cirrhosis, on which the author has a right to speak with authority, I find that he considers that a chronic atrophying condition of the liver is always ushered in by dyspeptic symptoms—a loss of appetite and distaste for food, accompanied by thirst. Morning sickness is also not uncommon, and the efforts at vomiting are occasionally distressing; the ejected matters being either sour or bitter according to the proportion of gastric juice or bile mixed with the phlegm in them, which is usually very abundant. He further calls attention to the frequency with which hæmorrhages are met with in advanced cases of cirrhosed liver, even fatal hæmorrhages. From his calculations bleedings appear to occur in the proportion of thirty-eight in atrophic and forty in hypertrophic cirrhosis. Although he thinks complete cure is rare in cases of chronically hardened liver, yet he admits that cases of recovery are much more frequently met with nowadays than formerly. And this he attributes mainly to the fact that within the last few years it has become the fashion to entirely abandon the use of alcoholic drinks during their treatment. In the early stage of cirrhosis he strongly advocates the administration of alkaline mineral waters, and that of Vichy in particular. He also recommends, combined with the employment of drugs, the free use of local counter-irritation, even going so far as to counsel the use of the cautery. One of the worst signs which can manifest itself in a case of cirrhosis he regards as that of an augmentation of jaundice, which is not infrequently accompanied by febrile symptoms and an increase of ascites, both of which are unfavourable complications. To the cirrhosis resulting from syphilis he gives special attention evidently regarding it as a most dangerous form of liver affection—and that, too, even when it is unaccompanied with either jaundice or ascites. In this view of the case I think he will be supported by all who have made liver diseases a special study. As might be expected, the two therapeutic agents he most relies upon in the treatment of syphilitic liver disease are mercury and iodide of potassium. I may mention that Dr. Cyr believes that there are a far greater number of varieties of cirrhosis of the liver than we have the least idea of in this country. He says, indeed, that he could easily describe ten or even eleven. I will not, however, attempt to follow him in this endeavour, but merely remark that among other varieties he prominently describes one as that of fatty cirrhosis—cirrhose graisseuse,—which he again subdivides into two varieties, an atrophic fatty cirrhosis and a hypertrophic fatty cirrhosis, which, however, in my humble opinion, might with more propriety be regarded as merely different stages of one and the same form of disease, the hypertrophic being the mere prelude to a subsequent atrophic condition of liver.

The next point which appears to me well worthy of the consideration of all those in the habit of treating liver diseases are his observations on the relative mortality arising from the spontaneous bursting of hepatic hydatid cysts. The following table gives in a clear and condensed form the gist of Dr. Cyr's calculation:—

In cysts bursting into the peritoneum			90	per cent.	are fatal.
,,	,,	,, pleura	80	,,	,,
,,	,,	,, bile ducts	70	,,	,,
,,	,,	,, bronchial tubes	57	,,	,,
,,	,,	,, stomach	40	,,	,,
,,	,,	,, intestines	16	,,	,,
,,	,, through abdominal walls		10	,,	,,

While as regards treatment the author, like all others of the advanced school of thinkers, advocates the early puncturing and evacuation of the contents of the cyst, as being at one and the same time the easiest and speediest means of effecting a cure.

Speaking of puncturing hydatids reminds me that I have not referred to Dr. Cyr's special chapter on the surgery of the liver, where, at page 180, he discusses the subjects of hepatic phlebotomy in dangerous cases of acute hepatitis, and puncturing of the distended liver's capsule in the congested indurated stage of the so-called hypertrophic cirrhosis, about which so much discussion took place in our medical journals last year. His remarks under this heading are highly important, and well worth the careful perusal of all who take an interest in hepatic surgery.

This brief sketch of the present state of French liver literature, imperfect though it be, is, I think, sufficient to show that our continental brethren (who I consider are ably represented by Dr. Cyr) are keeping themselves abreast with the rapid advances which are monthly—I might almost say weekly—taking place in the special department of liver pathology and therapeutics.

Harley-street, W.

THE CROWN PRINCE OF GERMANY.

THE following is the full text of Prof. Virchow's report upon the portion of the laryngeal growth removed on June 29th by Dr. Mackenzie. The report is dated July 1st, 1887, and appears in the *Berliner Klinische Wochenschrift* for the 11th inst.

"I received to-day at noon by special messenger from General Physician Dr. Wegner a sealed jar containing the small morbid growth which has been quite recently removed from the larynx of His Imperial and Royal Highness the Crown Prince. The specimen, which was in absolute alcohol, was entire and well preserved, although somewhat shrivelled. It presented a flattened base of a long oval outline five millimetres long and three millimetres broad, whence a hemispherical highly-granulated surface bulged to the height of slightly more than two millimetres. This latter

surface had a faint reddish-grey appearance, whereas the base was of a dark-bluish-black, apparently due to the action of an iron preparation, for on being moistened with hydrochloric acid the colour rapidly cleared up and disappeared, leaving behind a faintly yellow surface, which, on the addition of a drop of ferrocyanide of potassium solution, became a deep blue. Even the pale unstained portion of the convex surface gave the same reaction to a less degree. It must therefore be admitted that the iron had affected the whole of the upper surface, but that it was only the parts which were concealed that retained the bluish-black colour, whilst the exposed parts had faded; further that, although the wall had overlain the somewhat flattened base, yet its black colour gave the idea that this part had been similarly exposed to the action of external agents as other parts. Further examination showed that the flattened base was made up in great part of loosely aggregated rounded club-shaped papillary outgrowths, whilst traversing the central part of the base, and following closely its long axis, a small whitish line barely one millimetre in width existed in the line of incision, which was completely concealed by the papillary growths in the vicinity.

"Microscopic examination showed in even a more marked manner than on the former occasion that the surface of the excised portion was wholly beset with papillary outgrowths of very various sizes. It was only in the immediate neighbourhood of the cut surface that a small uninjured zone was found, of quite smooth continuous superficial tissue. In the papillæ, laminated and superficially flattened, large and hard epithelia were seen which composed by far the greatest part of the structure of the new growth; the connective tissue basis was thin, delicate and vascular. No peculiarities of cell formation were noticed. The surface of section consisted of an irregular, soft, and slightly vascularised tissue. Deep tissue layers have not been removed this time as at the first, and still more at the second operation. Neither glands nor nerve trunks were visible. The section seems to have been carried close to the surface, so that only a portion of the mucous membrane was involved in it. Therefore, on this occasion, there was only a little tissue present, and that not easy to treat, whereon an opinion could be based as to the condition of subjacent parts. This tissue did not in any part exhibit an alveolar structure, nor any epithelial deposit or ingrowth. It consisted of delicate connective tissue, which increased towards the surface, but not in the other direction, and in part contained proliferating elements. Nowhere did this proliferation attain the character of independent centres of growth. The excised portion has therefore to a greater extent than that removed at the last operation, the character of a hard compound wart growing on a moderately irritated and thickened surface, and its base does not favour in the slightest the opinion that it is a new growth invading the tissues."

(Signed) R. VIRCHOW.

JUBILEE ADDRESSES OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.

ADDRESS PRESENTED TO HER MAJESTY THE QUEEN IN PERSON AT WINDSOR BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

To Her Most Excellent Majesty, the Queen of Great Britain and Ireland, Defender of the Faith.

MOST GRACIOUS SOVEREIGN,—We, your Majesty's loyal subjects, the President and Fellows of your Majesty's College of Physicians of London, approach your Majesty with feelings of profound attachment and dutiful allegiance, to offer our sincere and heartfelt congratulations on the occasion of the Jubilee year of your Majesty's reign. We desire to express our deep appreciation of the benefits which we, in common with all the subjects of your Majesty, have derived from the long and auspicious rule of your Majesty in these realms. We thankfully recognise the great advances that the arts and sciences have made under the fostering care of our Gracious Queen, and we desire especially to thank your Majesty for the constant protection that legitimate medicine has, throughout the fifty years that are now past, invariably received at your Majesty's hands. We thank Almighty God that your Majesty has been permitted to exercise for so long a period so beneficent a sway over your dominions, and we earnestly pray that your Majesty may yet live many years to rule this great nation with wisdom and power, and to reign, as your Majesty has ever done, in the hearts of your subjects.

Sealed and signed on behalf of the College,

WILLIAM JENNER, President,
June 27th, 1887. HENRY A. PITMAN, Registrar.

THE HUMBLE ADDRESS OF THE PRESIDENT, VICE-PRESIDENTS, AND COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To Her Most Excellent Majesty, Victoria, Queen of Great Britain and Ireland.

MAY IT PLEASE YOUR MAJESTY,—We, the President, Vice-Presidents, and Council of the Royal College of Surgeons of England, humbly desire to express to your Majesty, in this year of its Jubilee, our grateful sense of the blessings we have enjoyed under your Majesty's long and prosperous reign. No student of our history can fail to recognise the many and great advantages that have been secured to us by science, by the arts, and by legislation during the last fifty years, and we venture to say that in no department of knowledge has there been greater progress than in the science and art of surgery. But we are conscious that, however much of our happiness may be due to the general advancement of civilisation, very much also we owe to the great personal influence for good your Majesty never fails to exercise on all occasions in which the welfare of the country and of your Majesty's people is concerned. We pray that your Majesty may be long spared to reign over us, so that for many years to come the people of your dominion may continue to be blessed by your Majesty's life and example.

In witness whereof, we, your Majesty's loyal and dutiful subjects, have caused the Common Seal of the College to be hereunto affixed this day of , 1887.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Stratford-on-Avon Combined Districts.—For a fourteenth year Mr. G. H. Fosbroke presents a report on the districts included in his combination; these being the Stratford and Evesham urban and the Stratford, Alcester, and Evesham rural districts. On the whole area the death-rate was 14·6 per 1000, it being highest—namely, 17·5—in the Alcester rural district, where some excess of measles, scarlatina, and diphtheria occurred. All available measures were taken by way of school closure, isolation, and disinfection to stay the spread of these diseases; and having regard to the difficulty of taking successful action under Section 126 of the Public Health Act, we are glad to record a case in which a person was convicted and fined for wilfully exposing her child whilst in an infectious state from scarlatina. But as regards disinfection, the means available in the district are very imperfect, and when it is remembered that this was one of the first rural districts that successfully established an infectious hospital, it is not very creditable to find that the neighbourhood is still without any proper apparatus for dealing with infected articles. Evesham has been satisfactorily supplied with water, and the experience of the town deserves recording. After having had a firm footing in the place, typhoid fever has, on the completion of the waterworks, been banished from the town. The voluntary system of notification of infectious diseases works well, were it not for a single medical man who declines to report. Last year Mr. Fosbroke inquired into 247 cases, and the assistance which the notification affords him is stated to be very great. Since 1875 the Alcester sanatorium has received 702 patients, and of these 634 have been cases of scarlatina. As to the age of the patients, 480 were under ten years of age; a statement which must altogether refute the contention that parents will not allow their children to be separated from them when sick. The Evesham urban and rural districts have also combined in the erection of an excellent hospital; and these districts generally have to thank

Mr. Fosbroke for the initiative he took some years ago in the matter of effectually protecting the public against infection by means of isolation.

Birmingham Urban District.—In 1874 the death-rate for this borough was 26·8 per 1000, but since then it has been almost steadily declining, and last year it was 19·6. Infant mortality was somewhat considerable during 1886, the large proportion of children who failed to attain to one year of age being the result of an unusual fatality in diarrhœa. And even 27·7 per cent. of the births failed to reach five years of life. These and other matters relating to the vital statistics of the borough are discussed in considerable detail by Dr. Alfred Hill, who is able to show that in one important respect—namely, in the "fever" death-rate, a very remarkable and steady diminution has taken place during the past sixteen years. In 1870 that rate stood at 0·63 per 1000 in Birmingham; now it stands at 0·15. In the general body of the report Dr. Hill discusses the best plan of drainage and watercloset for the labourer's class of dwelling, and useful diagrams are annexed to show the details of the scheme proposed, and which in principle are excellent. Automatic flushing of drains forms part of the scheme, and we shall be glad to learn from future reports that such flushing, when effected with the sewage itself, has answered the expectations set on it. In the borough infectious hospital only two cases of small-pox were received; but, on the other hand, the cases of scarlet fever isolated reached 428. At the disinfecting station 5826 articles were dealt with. Chapters are included in the report giving details as to meteorology, current sanitary work, and such like matters, and included in the latter work we find a record of two thousand cases of disconnexion of sink pipes. Work of this class and on this scale must steadily tend to the reduction of disease and to the general improvement of the health of the community affected.

Ulverstone Urban District.—This town of 10,000 inhabitants had a heavy death-rate of 22·8 per 1000 in 1886, the rate being largely augmented by a severe epidemic of measles, which caused 18 deaths. Then, again, there were 14 deaths from so-called croup of the non-spasmodic type. This latter is not a satisfactory feature in the year's returns. Good water is everywhere available, but some of the inhabitants obtain supplies from dangerous sources, and disease of a low type exists amongst them. Such cases should be dealt with. There is also still some cesspool drainage to which, according to Dr. Thompson, serious defects attach.

Ulverstone Rural District.—In this rural district the death-rate was 15·1 per 1000 during the past year. Scattered cases of typhoid fever were met with in connexion with the use of polluted water, the pollutions being brought about by soakage into wells and springs from filthy surroundings, but in some villages an efficient supply by gravitation has been provided. Incidentally Dr. Thompson refers to an inspection he made on premises where ensilage was used. The smell emanating from the house where the cattle were fed was perfectly nauseating, and he thinks that the effect of such food as an article of diet ought to receive the serious attention of agriculturists and others. At Allithwaite the pressing question of drainage still stands over.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5788 births and 3475 deaths were registered during the week ending July 7th. The annual rate of mortality in these towns, which had been 17·6 and 18·1 in the preceding two weeks, further rose last week to 19·6. During the thirteen weeks of last quarter the death-rate in these towns averaged 19·8 per 1000, and was 1·4 below the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 11·4 in Nottingham, 13·3 in Sunderland, 14·5 in Halifax, and 14·8 in Wolverhampton. The rates in the other towns ranged upwards to 24·0 in Manchester, 26·2 in Birkenhead, 26·9 in Newcastle-upon-Tyne, and 32·1 in Preston. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 512 and 486 in the preceding two weeks, further rose last week to 673, owing to the increased mortality from diarrhœa; they included 267 from diarrhœa, 152 from measles, 149 from whooping-cough, 54 from scarlet fever, 27 from "fever" (principally enteric), 22 from diphtheria, and only two from small-pox. No death from any of these zymotic diseases was registered during the week in Huddersfield, whereas they caused the greatest mortality in Manchester, Blackburn, Leicester, and Preston. The highest death-rates from diarrhœa occurred in Leeds, Preston, and Leicester; from measles in Oldham, Salford, Newcastle-upon-Tyne, and Birkenhead; from whooping-cough in Liverpool, Birmingham, and Birkenhead; from scarlet fever in Blackburn; and from "fever" in Preston. The 22 deaths from diphtheria in the twenty-eight towns included 11 in London, 2 in Portsmouth, 2 in Birmingham, and 2 in Manchester. Small-pox caused 2 deaths in Sheffield, but not one in Greater London or in any of the twenty-six other large provincial towns. The mortality from diarrhœa only slightly exceeded the average for the season. Only one case of small-pox was under treatment on Saturday last in the metropolitan hospitals receiving cases of this disease, no new case having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 184 and 199 in the preceding two weeks, were last week 189, and were 17 below the corrected average. The causes of 62, or 1·9 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Blackburn, and in four other smaller towns. The largest proportions of uncertified deaths were registered in Sunderland, Bradford, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 19·5 per 1000 in the preceding two weeks, further declined to 18·8 in the week ending July 9th; this rate was 0·8 below the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 16·9 and 17·0 in Aberdeen and Paisley, to 23·0 in Leith and 26·6 in Perth. The 469 deaths in the eight towns last week showed a further decrease of 18 from the numbers in the previous two weeks, and included 46 which were referred to whooping-cough, 22 to diarrhœa, 8 to scarlet fever, 4 to diphtheria, 2 to "fever" (typhus, enteric, or simple), 2 to measles, and not one to small-pox; in all, 84 deaths resulted from these principal zymotic diseases, against 90, 71, and 85 in the preceding three weeks. These 84 deaths were equal to an annual rate of 3·4 per 1000, which was 0·4 below the mean rate from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 28 and 43 in the preceding two weeks, further rose last week to 46, of which 11 occurred in Glasgow, 10 in Dundee, 9 in Edinburgh, and 7 in Greenock. The 22 deaths attributed to diarrhœa, including 6 in Glasgow, 5 in Edinburgh, 3 in Dundee, and 3 in Greenock, showed a further increase upon recent weekly numbers, but were 2 below the number in the corresponding week of last year. The 8 fatal cases of scarlet fever exceeded the number in the previous week by one, and included 3 in Edinburgh, 2 in Dundee, and 2 in Aberdeen. The deaths referred to diphtheria, measles, and "fever" showed a further decline from numbers returned in recent weeks; 2 from diphtheria were returned in Glasgow. Deaths resulting from acute diseases of the respiratory organs in the eight town, which had been 72 and 80 in the preceding two weeks, declined again last week to 76, but were 2 above the number returned in the corresponding week of last year. The causes of 57, or more than 11 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 26·7, 27·6, and 29·4 in the preceding three weeks, declined again to 26·6 in the week ending July 9th. During the thirteen weeks of last quarter the death-rate in the city averaged 28·7 per 1000, the mean rate during the same period being but 18·0 in London and 19·4 in Edinburgh. The 180 deaths in Dublin last week showed a decline of 19 from the numbers returned in the previous week; they included 36 which were referred to measles, 5 to whooping-cough, 3 to diarrhœa, 2 to "fever" (typhus, enteric, or simple), one from diphtheria, and not one either from small-pox or scarlet fever. Thus the deaths resulting from these principal zymotic diseases, which had been 28 and 40 in the preceding two

weeks, further rose last week to 47, and exceeded the number in any previous week of this year; they were equal to an annual rate of 6·9 per 1000, the rates from the same diseases being 4·3 in London and 3·6 in Edinburgh. The fatal cases of measles, which had increased in the preceding nine weeks from 6 to 30, further rose last week to 36, exceeding the number in any previous week of this year. The deaths from whooping-cough also showed an increase, while those from the other zymotic diseases scarcely differed from recent weekly numbers. The deaths of infants showed a further decline, and those of elderly persons were also less numerous than in recent weeks. Five inquest cases and 8 deaths from violence were registered; and 51, or more than a quarter, of the deaths occurred in public institutions. The causes of 17, or nearly 10 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

WAR OFFICE.—Army Medical Staff: Surgeon-General John Hendley, C.B., has been granted retired pay (dated June 21st, 1887); Surgeon-Major Isaac Hoysted, F.R.C.S.I., has been granted retired pay, with the honorary rank of Brigade-Surgeon (dated June 20th, 1887).

ADMIRALTY.—The following appointments have been made:—Surgeon Henry Harries, to the *Duke of Wellington;* Surgeon John B. B. Triggs, to the Jamaica Hospital; Surgeon Charles W. Hamilton, to the *Excellent;* and Surgeon William G. K. Baines, to the *Thalia.*

ENGINEER VOLUNTEERS.—2nd Cheshire (Railway): Thomas Castley Bailey, Gent., to be Acting Surgeon (dated July 9th, 1887).

RIFLE VOLUNTEERS.—4th Cheshire: Acting Surgeon John Keay, to be appointed Second Lieutenant (dated July 9th, 1887).—5th Cheshire: Acting Surgeon Walter Needham resigns his appointment (dated July 9th, 1887).—1st Dorsetshire: Acting Surgeon W. H. Williams, M.D., resigns his appointment; also is permitted to retain his rank, and to continue to wear the uniform of the Corps on his retirement (dated July 9th, 1887).—20th Lancashire (2nd Manchester): Arthur Henry Smith, Gent., to be Acting Surgeon (dated July 9th, 1887).

Correspondence.

"Audi alteram partem."

MORPHINOMANIA.

To the Editors of THE LANCET.

SIRS,—The interesting paper of Dr. Oscar Jennings in THE LANCET of June 25th, on the relief of the morphia craving by sparteine and nitro-glycerine, opens up a wide field of hitherto uncultivated therapeutics. The mental and bodily suffering of the morphia *habitué*, during his periods of privation, has its analogue in many allied pathological states. That cerebral and systemic ischæmia of the circulation is the explanation of these complex sufferings is rendered probable, not only by the action of remedies known as vascular stimulants in removing the *plateau*, seen in the sphygmograms of such patients, but also by the successful clinical results, generally obtained by giving vaso-dilating remedies with cardiac tonics in cases where there is pronounced cerebral anæmia, and cases where there are indications of exhaustion of the respiratory and the vaso-motor centres.

The outcome of intemperance in morphia, alcohol, chloral, cocaine, and other like stimulants, is the hyper-dilatation of all the peripheral bloodvessels. This starves the brain and other nerve centres, destroys for the time the physiological hyperæmia, which is a necessity of normal neural activity. These drugs, which in small doses stimulate the vaso-motor centres, in large, or repeated small doses, assume an antithetic *rôle* and induce paresis; thus the urgent necessity of constantly repeating the dose. "A hair of the dog that bit him" is the gospel of the weak-brained, tremulous drinker, and the morphia *habitué*, and he finds that life is only possible to him by spurring his weak nerves by morning drams. The *modus operandi* of these remedies, whose therapeusis depends greatly on their undoubted action on the circulation, is rather complicated. Thus, a drug like morphia may become a vaso-constrictor or dilator according to dose, or, like cocaine, it may show this dual action irrespective of dose, or, like ergot, it may act directly on the bloodvessels or on the cord. But whether these vaso-motor remedies act directly or reflexly, through accelerating fibres or inhibitory nerves, the most important point in reference to this and other forms of ischæmia is the behaviour of the veins in the abdomen. These, partaking of the general paresis, suffer undue dilatation, receive more than their share of blood, and as the blood when in the veins is useless for purposes of nutrition or function, it follows that ischæmia of the general circulation is apt to arise under the prolonged or the habitual use of these stimulants.

Dr. Jennings very clearly points out the two factors in the complex suffering of the morphinomaniac, recommending sparteine in the peripheral and nitro-glycerine in the cerebral or mental phases. Of sparteine I have no experience, but can fully endorse all that has been urged in favour of nitro-glycerine as a vascular stimulant. Besides this, it stands boldly out as one of the quickest and best cardiac tonics. This action on the heart, and at the same time its dilating power over the arterioles, render the peripheral circulation vigorous, and is just the remedy, of all others, one would expect to act well in cases of vaso-motor paresis. But it wants help in its action, for in paresis of this kind there is already great dilatation of the peripheral bloodvessels; and, indeed, it is because certain blood areas are increased at the expense of others that the symptoms take the form they do. These symptoms are those of utter exhaustion of the respiratory and vaso-motor centres, similar, but in an aggravated degree, to those feelings and sensations popularly known as nervous exhaustion. It is interesting to note that the more prominent of these symptoms—the yawning, the sweating, the tremulous and engorged hands and feet, the quick pulse and shallow breathing, the mental depression and moral weakness—are common to each and all of these drugs, which to many have become a daily curse. As might be imagined, the intemperate, whether in morphia, alcohol, chloral, or other luxuries, are always prone to seek "other fields and pastures new" in their self-indulgence; and the latest and perhaps the worst form of this kind of intemperance is cocainism. In small doses cocaine is a true vascular stimulant, and acts like an ordinary tonic. In large doses its action is decidedly twofold: it stimulates the brain, giving for a short time vigour and strength to the intellectual faculties and almost destroying the sense of muscular fatigue. At the same time it dilates to an enormous extent the peripheral arterioles, as made evident by the full bloodvessels and constant sweating. Here be it observed this latter phase of acute cocainism resembles in its purely somatic state that obtaining in morphia privation or alcoholic starvation. The cerebral exaltation does not last long, and very soon the peripheral misery is pronounced, and this is why cocaine is so dangerous, not only as an aid in the cure of morphinomania or chronic alcoholism, but even as a tonic in nervous debility. My clinical experience in cases of morphia or alcoholic paresis has led me to much the same line of treatment as that of Dr. Jennings. But with the nitro-glycerine I give strychnine, ergot, or minute doses of digitalis. The "nitrite-acting substance"—nitro-glycerine—of itself is not sufficient, and a little tension help is obtained by the addition of digitalis, ergot, or strychnine. It is not merely the partial anæmia of the brain, or the mere blood fulness in the peripheral arterioles, which is to be removed, but it is the sluggishness of the peripheral current and the excess of blood in the venules and larger abdominal veins that gives the somatic or peripheral misery felt by all, or most, patients suffering from deprivation of their accustomed stimulant. The excessive sweating, so marked and constant a symptom, is evidently due to the hyper-venosity of the blood and the consequent imperfect tissue change, and in strychnine we have a remedy which, besides stimulating the vaso-motor centre, increases the excitability of the respiratory centre and thus prevents, according to Brunton, the accumulation of carbonic acid. The whole mystery of this induced ischæmia is, therefore, paresis of the vaso-motor and respiratory centres, from habitual over-stimulation resulting in an almost pathological lowering of blood pressure in those vessels carrying the nutrient and oxygenated blood; hence

the patient feels for the time as one feels after a serious bleeding. In shock we have, according to Goltz's experiments, paralytic distension of the great veins. Here we have a kind of chemic shock, extreme central and peripheral malaise, the brain deficient as to its physiological congestion, the capillaries handicapped by a pathological venosity.

I am, Sirs, yours truly,

JAMES MORE, M.D.

Rothwell, Northamptonshire, July 11th, 1887.

"SURVIVANCE AFTER GUNSHOT WOUNDS OR OTHER INJURIES OF THE HEART."

To the Editors of THE LANCET.

SIRS,—The circumstances under which I ask you to publish a further statement of cases of this kind are simply these: I received a letter through your office on the 2nd or 3rd of May last from Dr. P. O'Connell of Chicago, with whom I had no previous acquaintance, who, after some complimentary allusions to my paper under this heading that had appeared some short time previously in your pages, intimated that if I would send him my address he would send me in return some references or abstracts of similar conditions he had himself collected. The result is given below, and as this gentleman has expressly desired that his communication should appear in THE LANCET, I send it to you accordingly, and ask, nay, respectfully urge, you to accept and publish it on his and my behalf.

I am, Sirs, your obedient servant,

Auriol-road, W., June, 1887. W. CURRAN.

Wounds of Heart not immediately Fatal.

In the *American Journal of the Medical Sciences* for May, 1829, p. 263, is recorded the case of a lad, aged fifteen, "who was shot in the chest and lived for sixty-seven days. On post-mortem, three shots were found lying loose in the cavity of the right ventricle and two in the right auricle." In the same journal for August, 1829, p. 307, Dr. John Redman Coxe refers to several cases in which life was continued for various lengths of time. I think several cases are recorded in Holmes' System of Surgery, second edition, vol. ii.; and in Fisher's Tables, p. 602, are given three cases, one of which lived ten weeks with a bullet in the cavity of the left ventricle, while another lived "some years" with a ball in the cavity of the right auricle.

Velpeau, in his Treatise on Surgical Anatomy, second edition, vol. i., p. 604, gives a case of extensive wound involving the right auricle, the patient living nine years.

Ollivier (d'Angers), in the "Dict. de Méd.," 1834, t. viii., gives a summary of about sixty collected cases, twenty-nine being wounds of the right ventricle. All except two lived not less than two days.

Dr. Babington ("Medical Records and Researches," p. 59) gives a case of bayonet wound (transfixion) of the heart in the region of the tricuspid valve, the patient living twenty-four hours.

Dr. C. F. Dudley (*New York Medical Archives*, March, 1871) reports a case of wound of the right ventricle, the ball being found within, the patient dying on the fifth day. He walked to his room after being shot, was carried by rail to New York next day, a distance of 162 miles, and was with difficulty prevented from going to a dance on the evening of his arrival in New York.

On November 3rd, 1875, M. Tillaux (*Gazette Hebdomadaire de Méd. et de Chirurg.*, of November 12th, 1875) exhibited to the Surgical Society of Paris the heart of a woman who lived eighteen days with a bullet, seven millimetres in diameter, in the cavity of the left ventricle.

In the *American Journal of the Medical Sciences*, July, 1876, p. 295, is given the case of a boy, aged fifteen, with "pistol wound of the heart, the ball passing through both ventricles and right auricle, and lodging at the root of the right lung: death thirty-eight months afterwards." The bullet, found at the necropsy, was conical, $\frac{3}{4}$ in. long by $\frac{1}{4}$ in. diameter. This case was originally published by Dr. P. S. Conner in the *Clinic* for May 27th, 1876.

The *New York Medical Record*, December 14th, 1878, has the case of a young man, aged eighteen, with a "pistol-shot through right ventricle, septum, and aorta; ball lying in left ventricle; sudden death on the fifty-fifth day." The bullet, from a Smith and Wesson revolver, was $\frac{32}{100}$ in. calibre.

The *American Journal of the Medical Sciences*, October, 1879, p. 589, contains a case of pistol shot where "the bullet had penetrated the pericardium anteriorly, passed through the muscular tissue of the wall of the left ventricle, 1 in. above its apex, and passed out of the pericardium posteriorly. The furrow in the wall of the ventricle was an inch and a half long, and a quarter of an inch deep, and the edges of the wound were ragged and everted.' The ball, $\frac{35}{100}$ in. calibre, did not cut entirely through the wall of the cavity of the ventricle, as it held water. The man lived thirteen days.

In the "Medical and Surgical History of the War of the Rebellion," part first, Surgical Volume, pp. 530 and 531, are recorded four cases (the fourth case being a doubtful one) where the patients survived a considerable time. The first of these "survived for fourteen days a wound of the right auricle by a round musket ball." "The next case refers to a patient who lived an hour and a quarter after a perforation of the right auricle and left ventricle by a conical pistol ball." "The third is an example of perforation of the left auricle and left ventricle by a pistol ball. The patient lived forty-six hours after the reception of the injury, although the case was complicated by wounds of the abdomen and axilla." I have given you only the headings of these three cases. Each was verified by careful post-mortem examination. In the fourth case, the patient survived two and a half years a supposed musket-ball wound of the right auricle. The attendants and reporters, who made post-mortem examination, declare most positively they found the cicatrix. There is a paucity of details concerning the wound, and it is possible, if not probable, that they (the reporters) mistook the *maculæ albidæ* of Rokitanski for the cicatrix.

One remarkable case of incised wound of the heart is given at p. 534 of the same volume. "After clearly dividing the sternum" (the gladiolus) "the blade" (of a sheath-knife) "had traversed the mediastinum and freely opened the right auricle." The man "expired in about eight minutes."

If you can put your hand on the volume just mentioned, you will find it a storehouse of information on this interesting subject. The reporter of my last reference was tiger-hunting in India. I quote from an article in Frank Leslie's popular monthly, June, 1885, p. 749, column 2. "Afterwards, upon opening this tiger, we found that it had been shot *through the heart*, and had actually run full half a mile after receiving the mortal injury—one of the most remarkable incidents of the tenacity of animal life that ever came under my notice." P. O'CONNELL, M.D.

Chicago, June, 1887.

HAY FEVER.

To the Editors of THE LANCET.

SIRS,—Considerable attention is now being directed to the subject of hay fever. The time of the year when this distressing malady is seen being the hot months it may interest your readers to peruse the following case:—

A. B——, aged forty-three, born of healthy parents; father died at sixty-five years of age, mother living and in "good health of mind and body," aged seventy-six years; has three sisters and one brother, all alive; remembers suffering from hay fever for the past thirty-six years; the symptoms manifesting themselves with great regularity in all parts of the world—West Indies, East Indies, continent of Europe, Egypt, and the Soudan, no climate making any difference, and no matter how great the heat or dust; no symptoms of the disease except in the months of May, June, July, and part of August. The paroxysmal sneezing, the intense itching of the eyes, nose, roof of the mouth and fauces, with the erysipelatous blush on the back of the throat, the deluge of clear watery fluid which runs from the nose and eyes, forming the chief symptoms which attract the attention, have always been preceded by considerable gastric and hepatic disturbance—in fact, a veritable visceral neurosis, which the attack of hay fever when it comes on gives much relief to. At all times of the year the nose has for the past twenty years been a source of trouble, dry crusts forming which have required to be removed either by violent blowing of the nose or by picking away with the finger-nail. Frequently this produced considerable bleeding from the nose, which always gave a feeling of relief. There has been always a considerable infliction of the septum nasi, but no disease was ever known to be present. About January of the present year a round cleanly-punched hole, ulcerating all round its edge, was discovered in the anterior part of the cartilage of the septum nasi, and since then the nose has required the use

of the pocket-handkerchief but very little, no hard crusts form, and though the usual symptoms of gastric intestinal irritation have been present to a considerable extent, yet up to the present the local manifestation of hay fever has been absent. There has been an occasional fit of sneezing following the irritation of the nasal mucous membrane by a camel-hair brush, but the so-called functional erectile action of the turbinated tissues is far less than it used to be—in fact, it appears as if the sensitive area which produced the sneezing, itching, and watering of the eyes and nose has been destroyed, and with its destruction the distressing train of symptoms known as hay fever. If this be correct, we can now understand the benefit obtained in relieving the symptoms by deadening the sensitive area by cocaine, nitrate of silver, and such like applications, and may be induced to proceed deeper to the entire destruction of the *materies morbi*.—I am, Sirs, yours faithfully,

July 11th, 1887. J. PERCIVAL HUNT, M.D., F.R.C.S.I.

THE THERAPEUTICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—It is with much pleasure that I have to report that the suggestion made in your columns *in re* the Therapeutical Society has met with warm approval. I have received none but letters of congratulation and the list of members is filling up rapidly. I hope that by the end of next week a strong and representative executive council will have been formed, and then a circular will be issued to members of the profession giving more details, and supported by names of well-known men, which will carry more weight with it than the one already issued with my signature alone. Arrangements have been already made to print and publish a quarterly therapeutical journal, with probably a weekly supplement, for members only. No subscriptions are due from any present joining members until the first general meeting, and of course no expense will be incurred by any beyond the annual subscription. I write this in answer to many inquiries as to when and to whom subscriptions are to be paid. I have to thank you for the courtesy with which you have allowed me to use your columns and valuable space, and trust that the Society will meet with the approbation of yourselves and numerous readers.

I am, Sirs, yours truly,

A. GEORGE BATEMAN,

Longridge-road, S.W., July 11th, 1887. Acting Hon. Sec.

EAST LONDON HOSPITAL.

To the Editors of THE LANCET.

SIRS,—My attention having been called to an article in your last number under the heading "Hospital Management," in which it is stated that my resignation of the chairmanship of the East London Hospital for Children and Dispensary for Women was owing to the irregular attendance at the meetings of the Board of Management, I beg to say that I resigned in consequence of finding myself at issue with the Board on the question of the demolition of an existing building and the erection of a new and very expensive out-patient department. It is true that I felt, and still feel, that had there been a full meeting of the committee at which the resolution to which I have adverted was passed, the result might have been different, and, in my opinion, more practical. I deprecated at the late annual meeting of the governors of the charity any and every thing that might be construed as a reflection upon my friend Mr. Norris, to whom the East London Hospital owes so much, and whose retirement from the treasurership would be all but universally regretted.

I am, Sirs, yours obedient servant,

Mayfield, Chislehurst, July 7th, 1887. THOS. CHARRINGTON.

THE TOWN COUNCIL OF ST. PETERSBURG AND THE MEDICAL SOCIETIES.—The Town Council of St. Petersburg having been requested to grant a piece of ground in Semenoff's-place as a site for a building for the meetings of the various medical societies, as well as for a dispensary for out-patients and for a surgical hospital, has refused to make the grant. The *St. Petersburger Medicinische Wochenschrift* remarks in connexion with this subject that it is not the first time that the municipal authorities have refused a site for a projected hospital which would have been a boon to the inhabitants.

LIVERPOOL.

(From our own Correspondent.)

CELLAR DWELLINGS IN LIVERPOOL.

REFERRING to the notice of the Liverpool medical officer of health's annual report in last week's LANCET, it should be stated that the difficulties in abolishing cellar dwellings are very great. These dwellings are clung to with quite as much tenacity as those of "flats" in Scotch towns (which have their sanitary drawbacks), and so long as they are not situated beneath a certain statute level they cannot be pronounced illegal. When times improve and trade revives there will be more encouragement to capitalists to build suitable and sanitary dwellings for the working classes; then the latter will be in a better position to pay increased rents for better accommodation.

INFECTIOUS HOSPITALS ACCOMMODATION.

Referring to the subject of means for isolating fever cases, the difficulties are peculiarly great. Liverpool is more densely populated than any other city, and a larger number of people are compressed into a comparatively small space than elsewhere. Moreover, the distance from any part of the city to a suburban site is considerable, even taking the nearest point, and, unfortunately, the residents in these localities are not at all inclined to welcome an infectious diseases hospital amongst them. The wonder is that the authorities have been able to make so excellent a beginning as they have.

REMOVALS TO MORTUARIES.

During the last year there were fifty-one bodies removed to the mortuaries provided by the Council under justices' orders on the certificate of the medical officer of health. It is greatly to be regretted that those of the lower classes of this city who are limited to two, or it may be even one room, do not avail themselves of the ample opportunities afforded them of removing their dead to the mortuary, instead of keeping them for days in their midst. This unwillingness to have dead bodies removed prevails extensively amongst Roman Catholics, and as speedy burial is not always practicable, it would be a great advantage if their bishops and clergy would publicly encourage such removal.

SANITARY WORK IN LIVERPOOL DURING 1886.

Some idea of the vast amount of work done by the sanitary authorities here may be judged by the following figures:—The medical officer of health had notices of 4539 cases of infectious disease, of which 234 were small-pox, 685 fever, 1747 scarlatina, 1690 measles, and 183 diphtheria. Out of a total of 1147 of the above which were removed to hospital 917 were effected by the sanitary officers. The number of houses disinfected was 2062, and that of privies certified for conversion into waterclosets was 409. As an illustration of the care with which the Adulteration Act has been put in motion, it appears that out of 952 samples submitted for analysis only 9 were found to be unadulterated. Unwholesome meat to the extent of nearly 58 tons and fish exceeding 50 tons in weight were seized and destroyed. The amount of fines and costs was £70; and this is only a small proportion of the work done.

Liverpool, July 12th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

A ROYAL WEEK FOR NEWCASTLE.

THIS is to be a Royal week in Newcastle. To-day the Prince of Wales with his sons is to arrive in our city; he is to stay four days, visiting the Royal Agricultural Society's show, which is held here after a lapse of twenty-four years. The Prince is also to visit the Royal Mining and Engineering Exhibition, and the far-famed Elswick works, with which Lord Armstrong has been so long and honourably associated. On the last occasion of the Royal Society's show, the attendance was enormous (exceeding 114,000, I believe), and it is to be hoped that the present one will be at least as successful. So far, everything promises well. Up to this there has been a large arrival of visitors. The weather, too, is fine, and warm, with a rising barometer.

NORTHERN VOLUNTEERS' COMMISSARIAT.

The Newcastle *Daily Leader* speaks of the great improvement there has been of late years in the way our Volunteers are treated at the annual inspections and reviews, and instances that at a review held at York twenty years ago, the only rations served out to some of the men were nine ounces of pork-pie, a pint of beer, and an ounce of tobacco, although they were away from home for more than twenty-four hours, much of which time was spent travelling in cattle-trucks, dressed only in their thin uniforms, at a season of the year when the air was cold morning and evening.

DROWNING CASES IN THE NORTH.

Every day for the past week there has been a sad record in our daily papers of young lives lost in bathing. On one day no less than six fatal accidents of this nature were recorded. In the great majority of the cases the same heedlessness is to be noticed: the persons lost were unable to swim, ventured into dangerous places, or even did not know how to bathe; for instance, in one of the cases a young man, aged twenty-seven, after bathing ran races with his companions in the fields by the side of the river for more than an hour, and then went into the water again in a highly heated and exhausted state, when he sank to rise no more. The lecture on the Methods of Restoring the Apparently Drowned, given last week by Dr. Hinshelwood, house-surgeon at the North Riding Infirmary, was most opportune. His lecture was given before the Middlesborough Amateur Swimming Club, and he succinctly explained the Marshall Hall, the Silvester, and also the American system known as Howard's. He was assisted in his demonstrations by Dr. Bateman, while Mr. Weddell, the superintendent of the baths at Middlesborough, gave examples of the safest and most expeditious methods of rescuing drowning persons from the waters. The lecturer and his assistants received most enthusiastic votes of thanks from the audience. Such lectures at this season are most valuable.

SUNDERLAND WORKMEN.

The workmen of Sunderland are proverbial for the honourable interest they take in support of their local medical charities. Last week they had their annual demonstration of friendly societies, and had the usual procession to the Avenue Theatre, where a service was held in aid of the infirmary, the Monkwearmouth and Southwick Dispensary, as well as the Sunderland and North Durham Eye Infirmary. The procession, it was noticed, was considerably larger than last year.

DEATH OF DR. ANDREW BOLTON OF NEWCASTLE.

Many old students and practitioners will regret to hear of the death of Dr. Bolton, which took place at his residence in Newcastle on Friday last. Dr. Bolton was best known as house-surgeon to the Newcastle Infirmary, which post he held for many years. He was also one of the secretaries of the Newcastle and Gateshead Pathological Society. About fifteen years ago he resigned his post at the infirmary and commenced private practice, and at once met with very great success. Dr. Bolton, who was in his fifty-seventh year, has left a widow and three children, and was attended in his last illness by Mr. Lightfoot.

Newcastle-on-Tyne, July 11th.

EDINBURGH.

(From our own Correspondent.)

MEDICO-CHIRURGICAL SOCIETY.

AT the last meeting of this Society a large number of interesting cases and specimens were exhibited. Professor Grainger Stewart exhibited a patient in whom a bronchiectasis had been cured by excision of ribs and drainage; and Dr. Byrom Bramwell, a case of athetosis and hemiplegia, apparently the results of an injury at the time of birth. Among the pathological specimens was an enormous renal tumour exhibited by Dr. Lundie. Dr. James Ritchie showed a series of specimens of wall papers containing arsenic, giving an account of the clinical features to which they had given rise in each case. To each specimen was attached a reduction tube showing the amount of arsenic obtained from a square inch of each of the papers. This was a very appreciable amount in some of the cases. It was worthy of note that none of the papers exhibited possessed a green colour. They were mostly, but not exclusively, of the cheaper types of wall paper frequently put in bedrooms or nurseries, and there was nothing about their appearance to excite suspicion. Dr. Bramwell showed a series of sphygmographic and cardiographic tracings from a case of aortic regurgitation, in which a presystolic murmur was audible in the mitral area, and in which there is believed to be no mitral stenosis. In describing this case, he gave an interesting account of the theories of the production of the murmur in such cases, specially commenting on that held by the late Professor Austin Flint. Dr. Bramwell also showed a series of slides, photographs, and drawings illustrating cerebral syphilis. A series of casts were shown by Mr. Hare, illustrating the surgical topography of the cranium in regard to determining the position of the fissure of Rolando in the living subject.

THE LINGUAL TONSIL.

Dr. McBride, at the same meeting of the Medico-Chirurgical Society, read a paper on the "Hypertrophy of the Lymphoid Tissue of the Tongue as a cause of Throat Symptoms." He was able to cite a series of typical cases of enlargement of this "lingual tonsil," and gave a clear account of the symptomatology, pathology, and treatment of the condition.

STIFF GREAT TOE IN ADOLESCENTS.

Dr. Cotterill then read a long paper on the above subject, dealing with the various theories of the causation of the condition. His own view is that the lesion consists in a partial relaxation of the tarsal arch, associated with the wearing of too tight and too short boots.

ROYAL HOSPITAL FOR SICK CHILDREN.

It is understood that the directors of this institution are contemplating the advisability of placing a surgeon permanently on their staff and of developing the surgical side of the hospital both as regards treatment and clinical teaching. It is possible therefore that the expected election of an assistant physician may be postponed indefinitely, since, if the addition of a surgeon and assistant surgeon be made to the staff, it will be large enough to undertake the work of the whole institution without further addition.

Edinburgh, July 12th.

ABERDEEN.

(From our own Correspondent.)

THE CITY HOSPITAL.

DR. FASSON'S report on the City Hospital has been in the hands of the Town Council for some time, and while several of the suggestions made for the improvement of the present buildings have been adopted, the most important alterations and additions recommended are still under consideration. At present the hospital consists of four detached pavilions, a "reception block," an administrative block, mortuary, laundry, and engine-house, &c. The pavilions are separated from each other by walls 7 ft. high, and these, Dr. Fasson suggests, should be taken down because they impede the free circulation of air round the buildings. Each pavilion contains a large ward for twelve beds, with ample cubic space and superficial area, and a small ward in which there are three beds, but in which there ought to be only two. The ventilation is said to be imperfect, "inasmuch as that while there are on the roof-ridge two archimedean cowls and two ventilators opening into the chimneys for the extraction of the impure air, there are no inlets for fresh air." There are windows on either side of the ward, but Dr. Fasson says: "Cross-ventilation by open windows is valuable, but not equally safe at all seasons of the year, nor in all weathers, nor, indeed, at all times of the twenty-four hours in a day. It cannot be depended upon for maintaining an equable temperature throughout a ward, and ..... may become a source of danger to the patients." He recommends the making of inlets below each window at the floor level, the air to be allowed to enter either direct or through "an inverted Tobin tube," placed outside the building, and the amount of air entering to be regulated by sliding doors on the lower inlets; in addition, it is suggested that fresh air might be admitted by placing a fillet of wood below the lower sash of a window, raising it about three inches,

and thus leaving a space between the two sashes. The heating arrangements are bad, and the pavilions being built of concrete, the walls are thin and absorb damp, so that it is almost impossible to keep the ward sufficiently warm and comfortable. To remedy this Dr. Fasson suggests the building of "a wall of single brick, inside, with an air space of some three or four inches between it and the concrete," while the walls should not be plastered, but covered with Portland cement and finished with a coat of parian; "this with three coats of paint, the last being of varnish-paint, presents a smooth polished surface," which can be washed and easily kept clean. As a means of heating, steam is recommended, because it would not only furnish all the heating power required, but would become an important factor in perfecting ventilation. The bath and latrine accommodation is condemned—the bath because it is fixed and otherwise unsuitable, and a portable one mounted on a frame with indiarubber tired wheels is recommended; and the waterclosets should be replaced by some approved "wash-out' pattern. The flooring of the wards is condemned, because the planks have all become warped, the seams are open, and the floors are very dirty. Dr. Fasson recommends the careful closing of the seams, painting with three coats of varnish, and the frequent application of turpentine and bees'-wax. He thinks the small ward in each pavilion ought to be reserved for the accommodation of "paying patients." He also recommends a special arrangement for the disinfecting of patients as they leave the hospital. His plan is to have a room divided into two compartments, in the one the patient takes off all hospital clothing and then passes into the second compartment, where he has a bath charged with some disinfectant, and dressing in clothes already disinfected he then leaves the hospital without again coming in contact with anything or anyone in the ward. The "reception-block" is condemned, and it is shown how it might be altered so as to accommodate eight beds, which would be available for sporadic cases of typhus and small-pox.

HEALTH OF THE CITY.

The Public Health Committee met on the 6th inst., and in Dr. Thomson's report, which was before them, it was stated that while in May the death-rate was 23 per 1000, in June it fell to 17·43. No cases of small-pox had been reported since June 28th, and it was hoped that the outbreak had been effectually checked. Of the sixteen persons affected, one, a medical student, died. In the City Hospital at the end of June there were fifty-nine cases, twelve of these being small-pox and the remainder chiefly cases of scarlet fever. During the month 145 cases of zymotic disease were reported, and of these nine terminated fatally. The committee were highly pleased with the general improvement in the health of the city.

THE ABERDEEN UNIVERSITY.

The summer session closes on the 15th inst., and the professional examinations begin on Saturday, the 16th. The first competition for the George Thompson Scholarship of £100 a year, tenable for two years, took place last week. There were three candidates, and the successful one has been declared to be Mr. James Johnstone, who has had a brilliant career at the Aberdeen University. The subjects chosen by the three candidates for examination were midwifery, and the diseases of women and children, physiology, and pathological anatomy.

Aberdeen, July 12th.

DUBLIN.

(From our own Correspondent.)

THE CONJOINT SCHEME BETWEEN THE TWO COLLEGES.

THE first professional examination under the new Conjoint Scheme between the College of Physicians and the Royal College of Surgeons took place last week. A very large number of candidates presented themselves, and the rejections were extremely numerous. It is stated that all the ladies who competed were rejected, either at the papers set or the *viva-voce* part of the examinations. It is rumoured that a re-examination will be applied for.

THE DEATH-RATE OF DUBLIN.

At a meeting of the Dublin Town Council last Monday, allusion was made to the comparatively high death-rate of this city. The Registrar-General in his weekly reports, it was pointed out, gave the social position of the various classes who had died during each week. There was, however, one class with reference to which, it was urged, he made no calculation—namely, the social position of the persons who die in the workhouse. The deaths in the Dublin workhouses were about 150 per 1000 persons, which is much higher than in English institutions of a similar kind. The death-rate also among children under one year of age was very high, and Sir Charles Cameron, medical officer of health for Dublin, had recently stated that, with the exception of Manchester, a large manufacturing city, the mortality among children under one year was higher than in any other city in the United Kingdom. A resolution was adopted that the Registrar-General be requested to bring out in his weekly return the proportion, according to their social position, of the persons who die annually in the workhouse. Sir C. Cameron, in a recent report on this subject, has conveyed some wholesome truths. He says: "With our present underfed, poorly clothed, and badly housed working population, we can hardly expect that the death-rate from all causes can be reduced to that of the prosperous cities of England. It is, however, some consolation to reflect that in 1886 we had the lowest mortality since death registration commenced in Dublin; that our zymotic death-rate was well below the average in English towns, and that our general mortality was less than the average general mortality of the chief continental cities. The mortality due to constitutional diseases is, however, still excessive in Dublin; but the measures for lessening it must be sought for in the domain of political economy, as well as in that of hygeia. Just in proportion as the people are well-fed, well-clad, and well-lodged, will they, by reason of their higher vitality, be able to resist the assaults of both constitutional and infective diseases."

Dr. Oakshott's salary (assistant medical officer, Cork District Lunatic Asylum) has been increased by £25 per annum.

Dublin, July 12th.

BELFAST.

(From our own Correspondent.)

THE ROYAL HOSPITAL.

DR. CALWELL, house physician, having resigned, Dr. Dunlop, who was house surgeon, has been elected in his place, and Dr. Powell, Demonstrator of Anatomy in the College of Surgeons, Dublin, has been appointed house surgeon. At the meeting of the Board of Management, at which these elections took place, several of the members present spoke in the highest terms of Dr. Calwell and Dr. Dunlop. I understand that the former was presented on Saturday with a beautiful study table and chair. The following inscription is on the table:—"Presented to Dr. Calwell by the students of the Belfast Royal Hospital, July 4th, 1887." Dr. Calwell is commencing practice in Belfast. Miss Bostock, an English lady from the vicinity of Leeds, has been elected lady superintendent of the Throne Convalescent Hospital. There were a large number of candidates. There will be an election shortly of a matron for the Royal Hospital.

THE BELFAST HOSPITAL FOR SICK CHILDREN.

The intern part of the hospital is at present closed while alterations in, and new arrangements of, the drainage systems are being carried out. It is hoped that everything will be complete next month. The fund for building the Convalescent Home in connexion with the hospital is steadily increasing. It has been kindly arranged that a refreshment tent shall be placed in the Royal Botanic Gardens, and that the profits shall go to this fund. The Board of Management and the medical staff of the Children's Hospital have memorialised the Senate of the Royal University to recognise this hospital as an institution from which the Royal University will receive certificates for attendance on diseases of children, on the grounds that it is the only hospital in Belfast which is entirely devoted to the treatment of diseases of children, that there are forty-five beds and a large extern department, that there is an attending staff of six, and that, although hitherto unrecognised by the University, students of Queen's College, Belfast, have attended in large numbers every year since

1875. I understand that the Belfast Ophthalmic Hospital also asks for recognition.

NORTH OF IRELAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

The ninth annual meeting of this Branch was held in the Royal Hospital on July 7th, and was very largely attended. Mr. Fagan, F.R.C.S.I., the president, read a paper on "Intestinal Obstruction," and advocated early laparotomy. For the ensuing year Dr. Palmer (surgeon to the County Infirmary, Armagh) was elected president, Dr. Browne (Belfast) and Dr. Dunlop (Holywood) vice-presidents, Dr. Gray (Castlewellen) treasurer, and Dr. Byers secretary. Several interesting contributions were brought before the meeting, and in the evening thirty-two members dined together in the Royal Avenue Hotel, where, under the presidency of Mr. Fagan, and the vice chairmanship of Dr. Palmer, a very agreeable evening was passed.

COUNTY ANTRIM INFIRMARY, LISBURN.

It is announced that Sir Richard Wallace, Bart., has given £200 for improvements to be effected in the co. Antrim infirmary, which is situated in Lisburn. It has been decided to have a new accident and emergency ward, and wire mattresses are to be substituted for the straw ones previously in use in the infirmary. Mr. G. St. George, surgeon to the infirmary, has arranged for a children's ward on the ground floor, and has obtained from friends £30 towards this very useful object.

BELFAST MEDICAL STUDENTS' ASSOCIATION.

At a meeting of this Association, held on Monday, I understand that attention was drawn to the fact that 180 medical students have signed a petition asking that the Union Hospital should be amalgamated with the Royal Hospital for clinical teaching, and a small sub-committee was appointed to look after this matter. Further, it was decided to draw the attention of the Senate of the Royal University to the fact that, although a very large number of Belfast students go up to the examinations, there is only one examiner (Professor Redfern) at the M.B. from Belfast. The students think that if in the future some of the Belfast teachers apply for examinerships in the Royal University, this fact should be recollected.

TERRIBLE TRAGEDY AT RATHFRILAND.

One of the most appalling tragedies that has ever happened in the north of Ireland took place on Saturday in the vicinity of Rathfriland, county Down. It seems that a man, who two years ago was an inmate of a lunatic asylum, armed with a formidable weapon used for trimming hedges set out from Rathfriland about 5 o'clock on Saturday morning, and murdered two women, and so savagely attacked an old man and an aged woman that little hope is entertained of their recovery, as they are at present in an unconscious condition. Several other people whom he met on his journey had narrow escapes. He then rushed into a lake, and coming out of this he entered in a nude condition a house where a woman was dressing her child. Raising his weapon, and exclaiming "Will I! Will I!" he observed two goats in the yard, which he killed. He then betook himself to the lake again, where with great difficulty he was captured. For some time previously it had been observed that the man was in a strange condition, and on Friday it was said he threatened to take his own life.

Mr. Robert Archer Nesbitt, L.R.C.P., L.R.C.S.Ed., has been appointed dispensing medical officer of Donaghadee, in the room of Dr. Stewart, J.P., resigned.

Belfast, July 12th.

PARIS.

(From our own Correspondent.)

THE ANTI-RABIC METHOD.

THE report of the English Commission is a great triumph for M. Pasteur, and, with the exception of M. Peter, who still remains refractory to the inoculation, all opposition to the method has momentarily ceased. The last two sittings of the Academy of Medicine have been almost entirely taken up with this question, and notwithstanding two new deaths from rabies after inoculation communicated by M. Peter, M. Pasteur has declined to recognise the competence of the clinical professor either in matters of experiment or of clinique. The occasional failures are overborne by the statistics of the inoculations, and these have not only been proclaimed anew by Professor Brouardel, but have also been endorsed by M. Villemin and Professor Charcot. It is somewhat odd that if M. Peter is incompetent to judge in the matter because he has never made experiments, M. Pasteur should seek the consecration of his method from a body of gentlemen who are nearly all similarly incompetent.

PROFESSOR GERMAIN SÉE ON ANTIPYRIN.

Professor Germain Sée has made a further communication to the Academy of Sciences on the treatment of pain by antipyrin. He now advises that the drug be administered by hypodermic injection in doses of half a gramme in the same quantity of water. The injection is followed by a disagreeable feeling of tension, which lasts a few seconds; and, when this passes off, the pain, whatever may be its cause, at once remits. It has the great advantage over morphine of giving rise neither to vertigo nor vomiting; nor does it produce either the somnolence or the artificial stimulus which lead to morphinomania. Lastly—and this is the great point—to its sedative effect it adds a curative action, which morphia does not possess. The diseases for which Professor Sée would more especially recommend the substitution of antipyrin for morphine are numerous—acute rheumatism, acute gout, herpes zoster, lumbago, ataxia; also in hepatic and nephritic colic, angina pectoris, and acute asthma. "But there is no morbid condition in which it does not advantageously replace morphia; and as we gather experience we shall see antipyrin used in its stead, and so become the preservative against chronic morphia poisoning." The enthusiasm of M. Sée for his favourite remedy is certainly refreshing, but I venture to think that his practical acquaintance with the morphia habit is, to say the least, restricted. Comparatively few of those who have drifted into morphinomania began their injections for the relief of pain, and even should antipyrin possess the virtue claimed for it by Professor Sée, it will not prevent the dangerous coqueting with morphia which has led many able overworked men to adopt it ultimately as an habitual stimulant.

TREATMENT OF PARALYSIS AGITANS BY MASSAGE.

M. Berber has used massage for the relief of paralysis agitans. He states that by increasing the circulatory activity in the muscles it removes their stiffness, facilitates movement, and causes a disappearance of trembling. He advises the *séance* to be commenced by ordinary massage of the muscles and muscular groups, taken up between the thumb and fingers. After a few minutes this should be followed by what he terms flagellation with the ulnar edge of the hand. In a certain number of cases the operation is to be followed by faradisation.

Paris, July 15th.

Obituary.

ALEXANDER H. BARTLET, M.D., F.R.C.S.

DR. ALEXANDER HENRY BARTLET, whose death, at the ripe age of eighty-seven, occurred on the 4th inst., at his residence in Ipswich, obtained his professional education at St. Thomas's and Guy's Hospitals. He obtained the licence of the Society of Apothecaries of London in 1821, the membership of the Royal College of Surgeons of England in 1823, was elected an honorary Fellow in 1844, and took the degree of Doctor of Medicine at King's College, Aberdeen, in 1859. In 1823 Dr. Bartlet commenced practice in his native town (Ipswich), and, having been previously elected surgeon to the local dispensary, was in 1825 appointed surgeon to the county gaol. In the establishment of the East Suffolk Hospital Dr. Bartlet took warm interest, and when in 1836 the honorary surgeons were elected he stood at the head of the poll. To this institution he remained attached over forty years, and when advanced age dictated the necessity for retirement the governors appointed him consulting surgeon to the institution. Dr. Bartlet was well known and highly respected throughout the district in which he resided.

JOHN MEENAN, M.D., M.CH.

WE regret to have to announce the death of another of the younger members of the medical profession in Belfast. Dr. Meenan was the second son of the late Mr. P. Meenan, Spring Farm, Antrim. He commenced and completed his classical studies at H. Malachy's College, Belfast, where he highly distinguished himself, and gained the respect of his professors and the affection of his fellow students. He then studied in Queen's College, Cork, and at the Carmichael School of Medicine, Dublin, where he was a prizeman and medallist in the Practice of Medicine, Chemistry, and Medical Jurisprudence. He graduated in the Royal University in 1885, and in the same year became a Licentiate in Midwifery of the Rotunda Hospital. For some months he was resident surgeon in the Mater Infirmorum Hospital, Belfast, and was subsequently appointed assistant physician. He commenced practice two years ago, and was rapidly gaining a large *clientèle*. Two weeks ago he was seized with an attack of rheumatic fever (from which he had often suffered before), which was complicated with pneumonia. He gradually got weaker, and died on Sunday last.

Dr. Meenan was a man of kindly disposition, and was possessed of great social qualities. He was deservedly popular among his out-patients and professional friends, as well as among the poor whom he looked after at the hospital with which he was connected. The burial took place on Tuesday.

FREDERICK EAST, M.D. (DURHAM), &c.

IN the sudden death of Dr. Frederick East, at the early age of twenty-eight, Clapton has lost one of its best practitioners and one whom it could least afford to spare. Dr. East commenced his medical career at the London Hospital ten years ago, and very soon was looked upon as one of its most distinguished students. After taking the College of Surgeons and College of Physicians' diplomas and the Apothecaries' licence, he graduated at the Durham University, and obtained the gold medal for his M.D. Graduation Thesis in 1883. Almost immediately after commencing practice in Clapton, Dr. East turned his attention to sanitary subjects, and it is chiefly in his connexion with the River Lea Purification Association that his name will be kept green amongst the inhabitants of north-east London. He became secretary to the Association, and it was without doubt mainly through his indefatigable efforts and perseverance that Parliament was induced to legislate finally in the matter.

Dr. East was a member of the Society of Medical Officers of Health, and also held the Cambridge certificate of sanitary science. As boy and man he gave promise of great things, and, though cut off at such an early age, his young life has already borne good fruit, and much of his work must continue to do so in the days that are yet to come. An excellent practitioner, hard working and thoroughly honest in all he did, he possessed all the capabilities for a very successful career. As a true English gentleman, he will be missed by all who knew him.

MEMORIAL PORTRAIT OF DR. WILSON FOX.

First List.

Sir W. Jenner, Bart.	£21 0	Dillworth Howard, Esq.	£5 5
Sir W. Gull, Bart.	5 0	Morris Lewis, Esq.	1 1
Sir J. Paget, Bart.	2 2	Dr. A. Money	2 2
Dr. Barlow	2 2	Dr. M. Murray	2 2
M. Beck, Esq.	2 2	Dr. F. Penrose	1 1
Dr. Brace	5 5	B. Pollard, Esq.	1 1
W. Poole-Collyns, Esq.	2 2	G. Pollock, Esq.	5 0
G. Dodge, Esq.	5 5	Dr. Poore	2 2
Dr. A. Duncan	2 2	Dr. Russell Reynolds	10 10
Dr. Dyson	2 2	Dr. Ringer	2 2
J. E. Erichsen, Esq.	2 2	Dr. F. Roberts	2 2
S. Evans, Esq.	2 2	Dr. Turle	1 1
Mrs. Dillworth Fox	30 0	H. B. Tuson, Esq.	1 1
R. J. Godlee, Esq.	2 2	Dr. Walshe	5 5
Dr. Gowers	2 2	Dr. H. Weber	2 2
C. Heath, Esq.	2 2		

W. R. Gowers, M.D., 50, Queen Anne-street; T. Barlow, M.D., 10, Wimpole-street, hon. secs., by whom further contributions will be gratefully received.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT a quarterly meeting of the Council, held on Thursday, the 14th of July, Sir T. Spencer Wells, Bart., and Mr. Hutchinson, were readmitted members of the Council; and Mr. Willett took his seat as the newly elected member. The minutes of the last meeting of the Council were read and confirmed.

Mr. Morrant Baker was introduced and admitted as an Examiner in Surgery.

The regulations recommended by the Museum Committee, relating to the duties of the Conservator and Pathological Curator respectively, were read, approved, and adopted, and will be published with the advertisement of the new office.

Mr. James Blake Baily was elected Librarian of the College.

Letters were read from Messrs. Hutchinson and Bryant resigning their positions as Examiners in Surgery. The appointments will be filled up at the meeting in August Mr. Bryant is eligible for re-election.

A letter was read from Mr. W. Morrant Baker resigning his appointment as Examiner in Physiology for the Membership and Fellowship examinations. This resignation will take effect in November next, after the examination for the Fellowship.

A letter was read from Sir Henry Pitman with reference to the extraordinary meeting of the 29th ult., at the Royal College of Physicians.

The President was authorised to nominate members of the Council as a sub-committee, referred to in the College's Land Committee.

A letter of the 8th instant was read, addressed to the President from the Secretaries of University College and King's College, London, forwarding, by direction of the councils of those Colleges, a copy of a petition which has been presented to Her Majesty in Council by the two Colleges, commending the petitioners' prayer to the attention of the President, and expressing their hope that it will meet with the co-operation and support of this College. This was acknowledged, and the secretaries were referred to the resolution arrived at by the two Colleges to proceed independently.

The following appointments were made:—The Joint Professors of Surgery and Pathology: Messrs. Bryant and Barker (subjects of lectures not determined). The Professors of Comparative Anatomy, Physiology, and other subjects: Mr. C. Stewart (subject not determined); Mr. C. B. Lockwood (on Development of the Organs of Circulation and Respiration, including the Pericardium and Diaphragm); Mr. W. H. H. Jessop (on the Pupil and Accommodation); Mr. J. Bland Sutton (on Evolution in Pathology); Mr. W. W. Cheyne (on Surgical Bacteric Diseases); the Arris and Gale Lecturer, Mr. R. Marcus Gunn (on Certain Points in the Anatomy of the Eye). The appointment of Erasmus Wilson Lecturer was postponed until after the appointment of the new Pathological Curator in November. Mr. F. S. Eve was appointed Pathological Curator for a further period of six months under present conditions.

Mr. W. S. Savory was re-elected President of the College for the third time, and Mr. Bryant and Mr. T. Smith were elected Vice-presidents.

The members of the following committees were appointed:—Museum, Library, General Purposes, Jacksonian, Auditors, and Nomination.

The next meeting of the Council will be held on Aug. 4th.

BETWEEN Ramsgate and Dumpton, on the 5th inst., a lad, while bathing, lost his footing, and would have been drowned had not Dr. Gabb, of Guildford, who happened to be on the beach at the time, plunged into the sea and brought him ashore in an unconscious condition.

ON the 7th inst. Her Royal Highness the Duchess of Albany opened three new wards in the National Hospital for the Paralysed and Epileptic, constructed as a memorial to the late Duke of Albany, in Queen-square, Bloomsbury.

CAUSES OF EXEMPTION FROM MILITARY SERVICE.—Notice has recently been given by the Spanish authorities that ringworm and pelada will henceforth be considered as causes for rejecting men as recruits.

Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND. — At recent meetings of the Examiners the following was admitted a Fellow of the College:—

Mc Creery, Benjamin Thomas, Army Medical Staff.

COLLEGE OF PHYSICIANS IN IRELAND.—At the July examinations the following obtained licences in Medicine and Midwifery of the College:—

MEDICINE.—Edward Lloyd Aherin, George James Burke, Eugene Byrne, William Edward Corbett, Norbert Sydney Durrant, Daniel Henegan, Francis Blake Knox, John Irwin Moore, Robert Garven Nesbitt, J. Joseph O'Connell, Reginald Rygate, Reuben Turner, Ninian Wildridge Woods.

MIDWIFERY.—Eugene Byrne, Thomas Carr, Edwin Tyrrell Cummings, Alfred Russell Darley, Norbert Sydney Durrant, John Irwin Moore, Robert Garven Nesbitt, Reuben Turner, Ninian Wildridge Woods.

At a special Examination held on June 27th and following days the undermentioned obtained licences in Medicine and Midwifery:—

MEDICINE.—Benjamin Badcock, John Joseph Byrnes, Thomas Carr, Oswald Herbert Edwards, John Augustine English.

MIDWIFERY.—Stafford Mouritz Cox, John Augustine English, Richard Blayney Wrightson.

The following has been admitted a Member:—

Bewley, Henry Theodore (Exam.).

THEIR Royal Highnesses the Duke and Duchess of Connaught opened, on the 13th inst., a new children's ward in connexion with the Westminster Hospital.

DR. VAUGHAN, on the 13th inst., in the absence of Lord Cross, distributed the medals and prizes gained by the students at Guy's Hospital Medical School.

THE ceremony of formally opening the new Hull and Sculcoates Dispensary was performed by the Mayor, on the 6th inst.

THE Paisley Police Commissioners have approved of plans for an addition, at a cost of £4000, to Paisley Infectious Diseases Hospital.

THE "Founder's Day" of the Hospital for Incurables, Putney, was celebrated, on the 5th inst., by a réunion of the friends of that institution.

NAVAL MEDICAL SUPPLEMENTAL FUND.—At the quarterly meeting of the directors of the fund, held on the 12th inst., Sir W. R. E. Smart, K.C.B., M.D., Inspector-General, in the chair, the sum of £80 was distributed among the several applicants.

THE annual inspection of the Leavesden Asylum by the managers of the Metropolitan Asylum District took place on the 9th inst. The visitors expressed their satisfaction with the condition and management of the institution.

ON the 4th inst. the Marquis of Lorne formally opened the National Smoke Abatement and Health and Home Exhibitions, which have been arranged within the Albert Palace at Battersea.

ROYAL MEDICAL COLLEGE, EPSOM. — "Founder's Day" was celebrated at Epsom College on Wednesday, July 6th, and in consequence of the exceedingly favourable weather the visitors were very numerous. On the platform, the head master, the Rev. W. Cecil Wood, M.A., was supported by Sir Joseph Fayrer, M.D., K.C.S.I., Sir Edward H. Sieveking, M.D., Mr. J. Lumsden Propert (son of the founder), Dr. George C. Jonson, Rev. E. W. Northey, M.A., Rev. R. Ewing, and Dr. John H. Galton. The distribution of prizes took place in the large schoolroom, which had been most prettily decorated by the boys for the occasion, the ceremony being interspersed with the customary speeches, scenes, &c. The proceedings closed with the singing of the "Carmen Epsomianum," after which cheers were called for the Council, the ladies, the masters, and Mr. Powles, one of the masters about to leave. The popularity of this gentleman was evinced by the vociferous and hearty way in which the boys responded to the last-mentioned call. A move was next made to the grounds, where, under the trees, refreshments had been tastefully laid out. A selection of music played by the Epsom band was highly appreciated, and greatly helped to enliven the proceedings in the open air.

MEDICAL NOTES IN PARLIAMENT.

Prisoners under the Vaccination Acts.

IN the House of Commons on the 11th inst., in reply to Mr. Channing, Mr. Matthews stated that it is in accordance with the existing law and prison rules that prisoners under the Vaccination Act should be ordered to pick oakum, but prisoners sentenced to simple imprisonment without hard labour cannot be placed on the treadwheel, and can only be employed on labour of the lightest description. There are no special rules for prisoners under the Vaccination Acts. It is the sentence which governs the treatment, and the same sentence involves the same treatment whatever may be the Act authorising it.

Foreign Paupers in England.

On the 12th inst., in reply to Mr. Agg-Gardner, Mr. W. H. Smith stated that the question of restricting the importation of foreign paupers was under the consideration of the Government. It was a question of much difficulty, and he was unable to fix a time when it would be possible to legislate upon it.

Ventilation in the House.

Mr. Bond, on behalf of Colonel Hambro, asked the First Commissioner of Works whether he was aware that there was a cellar in the House of Commons, the superficial area of which was 18 ft. by 12 ft., into which no natural light or fresh air could enter, or foul or heated air from the gas, which was always burning, could escape from, except through the doorway, which opened into a passage lit with gas and was nineteen yards from the external atmosphere, and that in this cellar, the temperature of which was seldom below 80°, three men in the employment of the House had to work at a dirty and laborious occupation on an average of fifteen hours a day throughout the session; and whether he would take immediate steps to have this cellar closed as a work-room.—Mr. Plunket, in reply, stated that the cellar to which his attention had been called was really a scullery used in connexion with the kitchen and the members' dining-room, and was in a convenient position for that purpose. He had inquired into its sanitary condition, and while he found that the drainage had been quite recently renewed and was in an excellent condition, the ventilation was undoubtedly in a bad state. There was, however, an air shaft from the ceiling which had not been used for some time. This shaft has now been put in use, with the result that a considerable current of air was now passing through the room.

Police Uniforms.

In reply to Mr. Quilter, who asked whether the Government would consider the desirability of supplying to the police a helmet of a lighter colour, and something in the nature of a blouse for wear on duty during the summer months, Mr. Matthews stated that the Chief Commissioner was in favour of the present system of clothing, thinking that in a variable climate like ours there was more danger from wet and cold than from heat. He was not, therefore, prepared to advise any change.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BENSON, ALFRED, M.A., M.B.Oxon., M.R.C.S., has been appointed Medical Officer to the Paddington Provident Dispensary, vice W. V. Lindsay, M.D., deceased.

BOXALL, FRANK, M.R.C.S., L.R.C.P., L.S.A., has been appointed Resident Medical Officer to the St. Pancras and Northern Dispensary.

CARTER, GRAHAM A., M.D. Mar. Col. Aber., L.R.C.S. Ed., has been appointed Medical Officer for the St. Chad District of the Lichfield Union.

COX, E. OWEN, L.R.C.P.Ed., L.R.C.S.Ed., L.F.P.S.Glas., has been appointed Junior House-Surgeon to the Westminster Hospital.

HARRIS, ALFRED, M.B., C.M.Ed., has been appointed Medical Officer for the Croxton District of the Thetford Union.

MORTON, JOHN, M.B.Lond., M.R.C.S., has been appointed Medical Officer to the Guildford Post Office.

MOXON, WILLIAM, L.R.C.P.Ed., M.R.C.S., has been appointed Medical Officer of Health for Matlock.

OWEN, R. CHAMBERS, M.R.C.S., L.K.Q.C.P., L.M., has been elected Assistant Surgeon to the Liverpool South Dispensary, vice Mitchell, resigned.

PERKINS, W. H., Ph.D., has been appointed Professor of Chemistry in the Heriot-Watt College, Edinburgh.

WALSH, ROBERT W., M.R.C.S., L.S.A., has been appointed House-Surgeon to the Clinical Hospital for Women and Children, Manchester.

WOOD, FREDERIC C., L.S.A., has been appointed Ambulance Surgeon to the Liverpool Royal Southern Hospital.]

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

BIRMINGHAM GENERAL HOSPITAL.—Resident Medical Officer. Salary £130 per annum, with residence, board, and washing.—Two Assistant House-Surgeons. No salary, but residence, board, and washing will be provided.

BRISTOL ROYAL INFIRMARY.—Obstetric Physician.

CUMBERLAND INFIRMARY, Carlisle.—House-Surgeon. Salary £70 per annum, with board and lodging.

FEMALE LOCK HOSPITAL, Harrow-road, W. — House-Surgeon. Salary £100 per annum, and board and lodging.

GENERAL HOSPITAL FOR SICK CHILDREN, Pendlebury, Manchester.—Senior and Junior Resident Officers. Salary £100 and £80 per annum respectively, with apartments and board.

HARTLEPOOLS HOSPITAL.—House-Surgeon and Secretary. Salary £60 per annum, with board (exclusive of beer, wine, and spirits), lodging, and attendance.

LEEDS BOROUGH HOSPITALS.—Resident Medical Superintendent. Salary £150 per annum, with board and residence.

LONDON FEVER HOSPITAL, Liverpool-road, N. — Assistant Resident Medical Officer. Salary £120 a year, with board.

NORWICH FRIENDLY SOCIETIES' MEDICAL INSTITUTE.—Resident Medical Officer. Salary £220 per annum, increasing £10 per annum for three years.

RIPON DISPENSARY.—Resident House-Surgeon and Dispenser. Salary £100, with furnished apartments, coals, and candles.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor. — Assistant Resident Medical Officer. Small honorarium.

WESTMINSTER GENERAL DISPENSARY, Gerrard-street, Soho, W.—Honorary Surgeon.

YORKSHIRE COLLEGE, Leeds. — Professor of Anatomy. — Demonstrator of Anatomy. Stipend £150.

Births, Marriages, and Deaths.

BIRTHS.

ADAM.—On the 6th inst., at Malling-place, West Malling, Kent, the wife of James Adam, M.D., of a son.

ALLEN.—On the 12th inst., at Oak Lodge, Stanmore, Middlesex, the wife of W. Hamilton Allen, M.B., of a son.

BARR.—On the 8th inst., at 1, St. Domingo-grove, Liverpool, the wife of James Barr, M.D., of a daughter.

BURTON.—On the 5th inst., at Lichfield-street, Burton-on-Trent, the wife of Leonard Burton, L.R.C.P.Lond., M.R.C.S., of a son.

COUNSELL.—On the 8th inst., the wife of Herbert Edward Counsell, M.R.C.S., L.R.C.P., of a daughter.

DUKE.—On the 5th inst., at Pevensey-road, St. Leonards, the wife of Edgar Duke, M.R.C.S., of a daughter.

LANCASTER.—On the 28th ult., at Neston Lodge, Lewisham High-road, St. John's, S.E., the wife of H. F. Lancaster, M.D., of a daughter.

MACKIE.—On the 12th ult., at Alexandria, Egypt, the wife of James Mackie, M.B. Aber., L.R.C.S.Ed., C.M.G., of a daughter.

ROSS.—On the 7th inst., at 9, Pavilion-parade, Brighton, the wife of Douglas M. Ross, M.B., M.R.C.S., of a son.

THIELE.—On the 13th ult., at Peshawar, India, the wife of Surgeon H. Thiele, M.S., of a son.

WILSON.—On the 2nd inst., at Sparrows Herne, Bushey, Herts, the wife of Daniel Wilson, M.D., of a son.

MARRIAGES.

ARCHER—BEVILLE.—On the 6th inst., at St. John's, Notting-hill, Herbert Ray Archer, M.D.Lond., to Rosita Evelyn Elizabeth, only daughter of the late Charles Wallace Beville, Esq., of the 12th Bombay Native Infantry.

LAURIA—LUSHER.—On the 7th inst., William Benjamin Lauria, M.R.C.S., to Mary Louisa, younger daughter of Edward Lusher, Esq., of Montreal, Canada.

LUNN—MOORE.—On the 12th inst., at the Parish Church, Middleton, the Rev. H. S. Lunn, M.D., to Ethel, eldest daughter of the Rev. Canon Moore, LL.D.

MACGREGOR—REDDIN.—On the 6th inst., at St. Mary's, Poole, Dorset, Donald MacGregor, L.R.C.S., L.R.C.P.Ed., to Harriette, younger daughter of the late Edmund Reddin, Esq., of Albury House, Clapham, Surrey.

MOUAT-BIGGS—TICKELL.—On the 5th inst., at Christ Church, Cheltenham, by the Rev. Morley B. Saunders, M.A., of Bristol (uncle of the bride), assisted by the Rev. E. A. Tickell, M.A., of Ulrome, Yorkshire, and the Rev. C. V. Childe, Vicar of Christ Church, Charles E. F. Mouat-Biggs, M.R.C.S., L.R.C.P., of Malmesbury, Wilts, to Mary Louisa, only daughter of Commander Tickell, R.N., of The Lypiatts, Cheltenham.

ROCHE—JOHNSON.—On the 5th inst., at Holy Trinity Church, Folkestone, Surgeon-Major A. W. Roche, Army Medical Staff, to Louisa Mary Johnson, only daughter of the late Sir Henry F. F. Johnson, Bart.

WEARING—COMER.—On the 7th inst., at St. Margaret's, Anfield, Richard Wearing, M.D.Ed., to Helena Blanche, younger daughter of George Comer, of Larkfield, Wavertree.

DEATHS.

IRWIN.—On the 11th ult., at Buttermere, Cumberland, Henry R. Irwin, of Darlington, Surgeon, aged 47.

SMART.—On the 10th inst., at 65, Craven-street, Birkenhead, Bath Charles Smart, M.D., F.E.S., late of Strangeways, Manchester, aged 49. (Interred at Bidston Cemetery.)

STEVENS.—On the 11th ult., at the Episcopal residence, Philadelphia, U.S.A., the Right Reverend William Bacon Stevens, M.D., D.D., LL.D., Bishop of Pennsylvania, in the 72nd year of his age.

WRIGHT.—On April 27th, at 2, Carlton-terrace, Wynyard-square, Sydney, N. S. Wales, from apoplexy, Ellen, beloved wife of Horatio G. A. Wright, M.R.C.S.Eng., L.S.A.Lond., aged 59.

WRIGHT.—On May 10th, at 2, Carlton-terrace, Wynyard-square, Sydney, N. S. Wales, after many years of patient suffering, Annie, beloved daughter of Horatio G. A. Wright, M.R.C.S. Eng., L.S.A.Lond., aged 35.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 14th, 1887.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
July 8	30·08	S.	73	64	124	85	60	...	Hazy
,, 9	29·92	W.	67	64	120	79	64	...	Cloudy
,, 10	29·73	S.W.	69	65	125	81	59	·63	Cloudy
,, 11	29·89	W.	69	66	116	80	61	...	Cloudy
,, 12	30·01	W.	69	64	121	81	63	·02	Hazy
,, 13	29·80	W.	70	69	126	85	63	...	Bright
,, 14	30·00	W.	67	62	101	73	61	...	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

DOES THE ACT OF 1886 GIVE COMPLETE QUALIFICATION TO ALL REGISTERED PERSONS?

Enquirens.—Clause 6, like many other parts of the Medical Act of 1886, is somewhat ambiguous. But in connexion with the repeal of the corresponding clause (31) in the Act of 1858, it does seem capable of the construction put on it by our correspondent. At the same time saving Clause 24 must be taken into account, and would seem to leave the privilege of practitioners registered before the appointed day *in statu quo*.

Dr. Tizard.—The fact may be mentioned more conveniently in a notice of the annual report on the health of the district.

Dr. John Caddy.—The discourse appears to have but a very faint bearing on medicine.

Mr. Mould is referred to a general notice at the head of this column.

THE PORTRAIT OF SIR WILLIAM JENNER.

To the Editors of THE LANCET.

SIRS,—I am convinced that, as usual, you spoke the voice of the profession in your remarks on the proposed presentation to Sir Wm. Jenner of his portrait by Mr. Holl and its replica to two colleges. That the profession will respond to the opportunity thus given, manifesting their admiration and esteem for the distinguished President of the College of Physicians, there cannot be a doubt. I have, however, a suggestion to offer which I venture to think will meet with the approval of physicians and surgeons generally, but more especially of those who practise in the provinces, and may therefore not have an opportunity of seeing either the original or the portrait as often as they could desire. It is that to each subscriber a photograph of the picture should be presented. May I take the liberty of making this suggestion through the columns of your highly valued journal? I am, Sirs, yours very faithfully,

Park-street, W., July 5th, 1887. A. B. KELLY.

SPORTS AND SPOILERS.

To the Editors of THE LANCET.

SIRS,—Can nothing be done when the United Hospital Sports come round next year to keep the ground free from bookmakers and worse? The "two to one bar one" fraternity were in full attendance at Stamford-bridge this year, and carried on their trade in the most open manner, though without any actual shouting, or any of their usual paraphernalia. Surely this is as avoidable as it is out of place at a meeting of the kind. I offer no suggestion, but I think it should be publicly known.

I am, Sirs, yours faithfully,

July, 1887. LATIN GAMES.

PHOTOGRAPHS OF THE LATE DR. MOXON.

Philo Pilo.—Unfortunately there is no very good photograph of this physician, whom we all miss so much. Two photographs were taken by Mr. Barraud of Oxford-street, and he still has the negatives. The one representing Dr. Moxon standing was taken for the Medical Congress group.

Mr. W. Blake Marsh.—By the new French regulations great difficulties are thrown in the way of English and other foreign medical men wishing to practise in France, it being now compulsory for such to take the M.D. of the University of France at Paris, or at one of the provincial Faculties of Medicine. In Italy authority to practise can be more easily obtained; generally, we believe, without any examination in the case of medical men with English qualifications. Our correspondent should apply to Her Britannic Majesty's Consul at Rome.

Mr. E. T. Yeates.—The card is in very bad taste, and would justify remonstrance, if not refusal of professional amenities.

THE PROPOSED REGISTRATION OF FOREIGN DEGREES.

To the Editors of THE LANCET.

SIRS,—I notice in your issue for July 9th a letter on the above subject. The arguments of the writer are plausible, but a little consideration reveals in them several flaws. Take the following statement, for instance:—"It seems reasonable to suppose that no Englishman would go abroad for his degree if he could get one as easily at home." I grant this; but there are many reasons why an Englishman may find a foreign degree more easy to obtain other than the intrinsic easiness of the examination, which "Briton" appears tacitly to assume to be the only reason. Suppose, for instance, his parents reside at a foreign university town, it would obviously be more convenient to take his degree at that university. Suppose that expense is an object, and that he can only afford that degree which will cost him least, why should the Medical Council refuse to acknowledge the only degree which he can afford to obtain? One can scarcely reside at Oxford or Cambridge at an expenditure of less than £200 a year, whereas one can easily live in London with an income of £100. The expenses, therefore, of a candidate for a degree at Oxford or Cambridge will be £200 a year for three years, plus £100 a year for two years' study at London; in all, £800. The expenses of a candidate for a foreign degree are £400 for the four years' study in London. Here I do not take account of the fees; but, even supposing that they are not much greater in England than abroad, the total expenses of an English degree are nearly twice as much as those of a foreign one. But the expense may not be the sole objection to residence at an English university; it may be inconvenient from other causes, and it is unquestionably the inconvenience of the residence which drives so many medical men to take their degrees abroad, and not that the examinations themselves are intrinsically easier. And even if an Englishman with a foreign degree were wrong in assuming that it "implied some *professional* superiority over his untitled brother practitioners," the public would be right in thinking that it implied a superiority of another kind, a superiority in pluck and determination, which has impelled him not to allow himself to be beaten by the difficulties placed in his path, but to persevere in the endeavour to obtain from a foreign country those rights which have been denied to him in his own. To say that the registration of foreign degrees would "injure" anyone is no argument whatever against their registration; or, if it be so, the injury done to their holders by the present system is equally an argument in favour of their registration. "Briton's" last argument cuts both ways. If it be "unjust to register any foreign degree, unless it implies a higher professional knowledge than any British qualification which does not confer a similar degree," surely it must be equally unjust to refuse to register a foreign degree which implies a higher professional knowledge than a British qualification which does confer a similar degree.—I am, Sirs, yours faithfully,

July, 1887. E. OSBORNE FOUNTAIN, B.A.Cant., M.D.Brux.

Mr. Edward D. Buss.—Our correspondent is a little hard on the letter specified. These minor points of practice may profitably be the subject of report from time to time.

Ice.—We are not aware that the point has been definitely decided, though the current belief is in favour of the affirmative view.

THE CLIMATE OF ILFRACOMBE.

To the Editors of THE LANCET.

SIRS,—Allow me to take exception to a remark in your article on the Holiday Season in your last issue. Speaking of the various seaside places you say: "Scarborough and Cromer are two of the most bracing English marine resorts, while Ilfracombe represents the opposite pole." It is an error to suppose that the climate of Ilfracombe is relaxing, as anyone who has experienced the delicious and invigorating breezes during the last six weeks, when the country has been scorching under the rays of an almost tropical sun, can easily testify. If the freedom from frost and snow in winter and the bracing breezes of our summers were better known, the beauties of this charming place would be even more generally appreciated than they already are.

I am, Sirs, yours obediently,

Ilfracombe, July 11th, 1887. FREDK. A. BEST.

THE PROSPECTS OF THE PROFESSION.

To the Editors of THE LANCET.

SIRS,—It would be most desirable in the interests of parents, guardians, and aspirants to the medical profession, to place before them a plain statement of facts regarding it as a means of obtaining a livelihood. I will therefore, with your permission, proceed to discuss the subject as briefly as possible.

The lay and professional journals often contain glowing accounts of Royalty laying foundation stones, ornate presidential addresses, and allusions to peerages for the profession. The consequences are that the public are deceived, and hundreds allured to enter it when it is already disastrously overcrowded. People imagine that a youth has only to enter its portals and his future is made. Visions of baronetcies, wealth, and all its concomitant comforts float before him. The profession thus receives annually an excessive number of intending practitioners for the majority of whom the vital question will be, not whether they will refuse a knighthood or accept a baronetcy, but whether they may be able to exist.

We may assume a case which is typical of hundreds. A young man, after a cost of time and money equivalent to, say, £500, finds himself doubly qualified. How shall he dispose of his services to the best advantage? He may apply for an assistancy, which is very often most difficult to obtain. He will find hundreds with more experience and interest, possibly many with more agreeable appearance and address, so that months may elapse before he receives employment. If he be successful, he will but too often realise a miserable existence. He will possibly have plenty of responsibility, drudgery, and censure for a salary somewhat higher than that received by his employer's coachman. He may desire an appointment as a ship surgeon, and here the same conditions are almost essential to success. In the majority of cases he will be informed that they are "full up," and of the remainder no hope of immediate employment will be offered. If he be fortunate, he might receive as salary from £5 to £8 per month without any prospect of promotion.

A Poor-law appointment is almost inaccessible to a beginner. Experience, residence in the locality, interest with members of the Board, and in Ireland possibly acceptable religious and political tenets are indispensable qualifications. The income derived both from appointments and private practice in poor districts is often scarcely sufficient to provide a respectable maintenance, while the duties are harassing in the extreme. The military and naval services can only provide for a few of the best educated of the many who annually swell the Medical Register, while hospital appointments are much sought after, difficult to obtain, and are only temporary.

The subject of private practice may next be considered. It is only to be gained by prolonged individual effort or the hazardous plan of purchase. A man may travel the whole country, and in every eligible place he will find numerous opponents more experienced, better known, possibly more skilful, and already established. If he be unable to purchase a practice he must necessarily incur great expense in establishing one and supporting himself while doing so; for years may elapse before his professional income equals his expenditure. If purchase be the means selected difficulties have still to be encountered, patients may be introduced but not necessarily transferred, many circumstances often operating to alienate their patronage.

And lastly, the prospects generally are most discouraging. The profession, already fearfully overcrowded, is annually becoming more so, quackery, patent medicines, provident associations, and clubs, all on the increase, complete the list of reasons why the profession of the future will be but a gaunt and melancholy shadow of what it was in the past as regards its dignity and emoluments.—I am, Sirs, yours truly,

May 27th, 1887. PRO BONO PUBLICO.

Germist (New York).—The paper is by Manfredi, and it was recently presented to the Accademia dei Lincei by Dr. Tommasi-Crudeli, who appended to it some considerations of his own. Its exact title is "Dell' Eccedenza del Grasso nell' Alimentazione dei Micro-organisms Patogeni, come Causa di Attenuazione della loro Virulenza: Saggio di Vaccinazione contro il Carbonchio" (On the Excess of Fat in the Alimentation of Pathogenic Micro-organisms as a Cause of the Attenuation of their Virulence: an Attempt at Vaccination against Charbon).

V. (Liverpool).—We regret we cannot comply with our correspondent's request.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Alder Smith, London; Mr. C. Williams, Norwich; Dr. Tate, Nottingham; Dr. Attfield, Watford; Dr. L. Marshall, Nottingham; Sir J. Sawyer, Birmingham; Dr. Boyd, Dublin; Dr. Savage, Birmingham; Dr. Percy Boulton, London; Dr. Moullin, London; Mr. Squire, London; Mr. Davies, Little Bedwell; Mr. Clark, Dovercourt; Messrs. Beal and Son, Brighton; Messrs. Dawson Bros., Montreal; Messrs. Waltham and Co., Stockwell; Mr. Affleck, Manchester; Mr. Mitchell, Newton Heath; Messrs. Bennett Bros., Salisbury; Messrs. Kegan Paul and Co., London; Miss Shaw, Westgate-on-Sea; Messrs. Higham and Co., Hyde; Dr. Steel, Baden; Mr. Poole, Dudley; Messrs. Reynolds and Branson, Leeds; Mr. Burgess, Manchester; Mr. Hunt, Barton

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LETTERS, *each with enclosure*, are also acknowledged from—Dr. Davies, Bridgend; Dr. Fraser, Totness; Mr. Sotheran, York; Messrs. Austin and Son, Clifton; Mr. Brockelbank, Islington; Messrs. Macfarlane and Co., London; Mrs. Smart, Birkenhead; Messrs. Maythorn and Son, Biggleswade; Mrs. Anderson, Portishead; Messrs. Masters and Co., London; Mrs. Thomson, Louthborough; Messrs. Schweitzer and Co., London; Dr. Kerr, London; Dr. Mills, Norwich; Messrs. Slinger and Son, York; Mr. Hockenhall, Chester; Mr. Coltman, Leicester; Dr. Dugan, Castle Eden; Mr. Hodgett, Birmingham; Mr. Rawlins, Manchester; Mr. Salmon, London; Mr. Menier, London; Mr. Cook, Lowestoft; Mr. Davies, Cheltenham; Dr. Tayler, Penge; Mr. Irving, Battermere; Mr. Coleman, Brighton; Mr. Frost, London; Mr. Lee, Exeter; Mr. Martin, Horsham; Dr. Marshall, Atherton; Mr. Groves, Dorchester; Mr. Wheeler, Manchester; Mrs. Jones; Messrs. Deighton and Co.; Mr. Hamar, Stoke; Mr. Parry, Bagillt; Dr. Adams, West Malling; Mr. Pimm, Derby; Dr. Deeley, Sherborne; Messrs. Smith and Son, Manchester; Mr. Schacht, Clifton; Mr. Williams, Mountain Ash; Mr. Briggs, Corbridge; Dr. Lyon, Fencehouses; Messrs. Condy and Co., London; Mr. Haywood, Liverpool; Mr. Hartley, Huddersfield; Dr. Boreham, Ilfracombe; Arnold, Edinburgh; M.D., Bristol; C. A. B., Canterbury; Matron, Ventnor; J. K. L.; E. B. J.; Lady Superintendent, Bath; Practitioner; Treasurer, Rotherham; Triceps, Liverpool; C. E., Cheltenham; Matron, Bedford; Chirurgus, West Brighton; W. S. F., Peckham; Matron, Canterbury; Medicus, Clay Cross; H. F., Barnstaple; W. V. N., Streatham; Medicus; Lex, New Swindon; Veritas, Brighton; Doctor, Birmingham; Perseus, Edinburgh; A. B., Southampton; Surgeon, Grimsby; Beta, Edinburgh; X. Z.

University College Gazette, Essex Telegraph, Manchester Guardian, Echo, Newcastle Daily Chronicle, Sydney Morning Herald, Light, &c., have been received.

Medical Diary for the ensuing Week.

Monday, July 18.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

Tuesday, July 19.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

Wednesday, July 20.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M.; Saturday, same hour.

Thursday, July 21.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Friday, July 22.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 23.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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